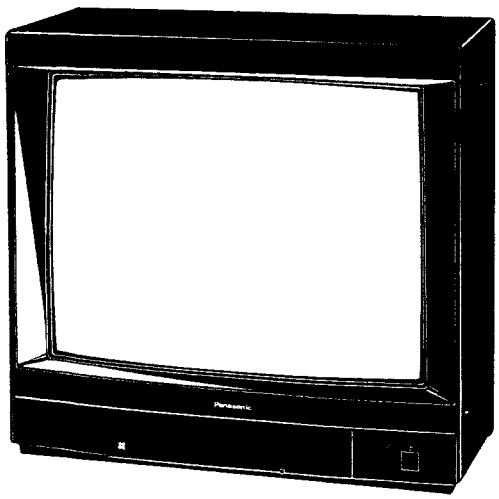
ORDER No. SM 90030

Service Manual

Colour Television

TC-2195DRS

Z3-T Chassis



Specifications :

Power Source:	230 V AC, 50 Hz
Power Consumption:	86 W
Aerial Impedance:	75Ω unbalanced, Coaxial Type
Receiving System:	PAL-B, G SECAM-B,G
Receiving Channels:	VHF CH2 - CH12 S1-3, M1-10, U1-9, UHF E21-E69
Intermediate Frequency:	Video 38.9 MHz Sound 33.4 MHz Colour 34.47 MHz (PAL) 34.5 MHz (SECAM)
Video/Audio Terminals:	34.65 MHz (SECAM)
AV1/21 pin IN	Video 1 Vp-p 75Ω Audio 0.67 Vrms, 10k Ω
AV1/21 pin OUT	Video 1 Vp-p 75Ω Audio 0.67 Vrms (100 % modulation) 1kΩ
High Voltage:	25.0 kV at zero beam current
Picture Tube:	21 inches measured diagonally, 90° deflection
Audio Output:	3W (Music Power) 8Ω Impedance
Speaker:	115mm x 68mm Oval
Dimensions:	Height: 468 mm Width: 510 mm Depth: 479 mm
Net Weight:	21.6kg

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

Technische Daten :

Netzpannung:	230 V AC, 50 Hz
Leistungsaufnahme:	86 W
Antennenimpedanz:	75Ω asymmetrisch , Koaxial-Typ
Empfangssystem:	PAL - B,G SECAM-B,G
Empfangsbereiche:	VHF CH2 - CH12 S1-3, M1-10, U1-9, UHF E21-E69
Zwischenfrequenz:	Bild 38,9 MHz Ton 33,4 MHz Farbe 34,47 MHz(PAL) 34.5 MHz (SECAM)
Video/Audio Anschüsse:	34,65 MHz(SECAM)
AV1/21-poliger Eingang	Video 1 Vs-s 75 Ω Audio 0.67 Vrms, 10k Ω
AV1/21 pin-poliger Ausgang	Video 1 Vs-s 75 Audio 0.67 Vrms (100 % modulation) 1kΩ
Hochspannung:	25.0 kV bei Nullstrahlstrom
Bildröhre :	55cm Diagonale, 90° Ablenkung
Ton Ausgangsleistung:	3W (Musikleistung) 8Ω Impedanz
Lautsprecher:	115mm x 68mm Oval
Abmessungen:	Höhe: 468 mm Breite: 510 mm Tiefe: 479 mm
Gewicht:	21.6kg

Änderungen der technischen Daten vorbehalten
Gewichte und Abmessungen sind Näherungsangaben.

Panasonic

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are properly installed.
4. When the receiver is not to be used for a long period of time, unplug the power cord from the AC outlet.
5. Potential, as high as 28.0 kV, is present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not throughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the receiver chassis before handling the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, aerials, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

SICHERHEITSVORKEHRUNGEN

ALLGEMEINE RICHTLINIEN

1. Es ist empfehlenswert, einen Trenntransformator in die Stromversorgung zu schalten, bevor Reparaturen an einem Gerät vorgenommen werden, dessen Chassis unter Spannung steht.
2. Bei der Durchführung von Servicearbeiten dürfen die ursprünglichen Kabelanschlüsse nicht vertauscht werden. Dies gilt insbesondere für die Anschlüsse im Hochspannungsteil. Hat sich ein Kurzschluß ereignet, dann sind alle Teile, an denen Spuren von Überhitzung sichtbar sind, auszuwechseln.
3. Nach Beenden der Servicearbeiten ist sicherzustellen, daß alle Sicherheitsvorrichtungen, wie Isolationsstege, Isolationspapiere, Abschirmungen und Isolations - R -C - Glieder wieder richtig eingesetzt sind.
4. Wenn der Fernseher während längerer Zeit nicht in Betrieb gesetzt wird, sollte der Netzstecker aus der Netzsteckdose gezogen werden.
5. Im Betrieb sind Spannungen bis zu 28.0kV in diesem Gerät vorhanden. Die Inbetriebnahme des Fernsehers ohne aufgesetzte Rückwand bringt die Gefahr eines elektrischenSchlages von der Fernseher - Stromversorgung mit sich. Servicearbeiten sollten daher auch nie durch Personen versucht werden, die nicht in vollem Umfang mit den Sicherheitsvorkehrungen beim Umgang mit Hochspannungsgeräten vertraut sind. Vor der Handhabung mit der Bildröhre ist die Anode der Bildrohre immer an dem Empfängerchassis zu entladen.
6. Nach Beenden der Servicearbeiten sind die folgenden Kriechstrom-Prüfungen durchzuführen, um den Kunden vor der Gefahr eines elektrischen Schlages zu schützen.

MESSUNG DES ISOLATIONSWIDERSTANDES IM ABGESCHALTETEN ZUSTAND

1. Den Netsztecker aus der Netzsteckdose ziehen und die beiden Steckerstifte kurzschließen.
2. Den Geräteschalter des Fernsehgerätes einschalten.
3. Mit einem Ohmmeter den Widerstandswert zwischen dem überbrückten Netzkabelstecker und jedem zugänglichen Metallteil am Gehäuse des Fernsehgerätes, wie Schraubenköpfe, Antennen, Achsen der Regler, Griffassungen usw. messen. Wenn ein zugängliches Metallteil eine Rückleitung zum Chassis hat, sollte die Anzeige zwischen 4M ohm und 20M ohm betragen. Wenn ein zugängliches Metallteil keine Rückleitung zum Chassis hat, muß die Anzeige unendlich betragen.

LEAKAGE CURRENT HOT CHECK (See Fig 1)

1. Plug the AC cord directly into the AC outlet. Do not use the isolation transformer for this check.
2. Connect a 2 k ohm, 10W resistor, in series with an exposed metallic part on the receiver and an earth such as water pipe.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1.4 volts RMS. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT
SCHALTUNGSAUFBAU FÜR PRUFUNG IM EINGESCHALTETEN ZUSTAND

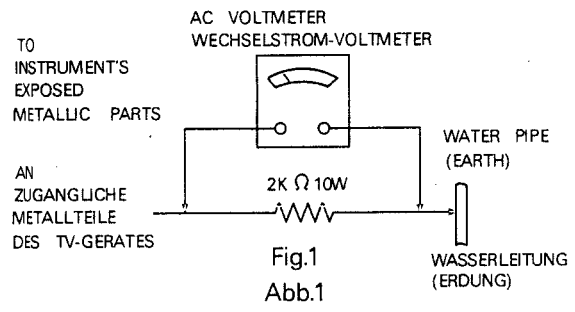


Fig.1
Abb.1

X-RADIATION
WARNING:

1. The potential sources of X-Radiation in TV sets are the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 28.0 kV without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Set the service switch to the SERVICE position.
3. Measure the High Voltage. The meter reading should indicate 25.0 kV, +/- 1.5 kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent an X-Radiation possibility, it is essential to use the specified tube.

SHUT DOWN CIRCUIT TEST
This test must be made as a final check before the set is returned to the customer.

1. With the rear cover removed, supply nominal 230V AC to the set, turn on the power switch.
2. Receive a Phillips pattern.
3. Supply - 40 V DC to TPE7, and confirm that the shut down circuit does not operate.
4. Supply - 60 V DC to TPE7, and confirm that the shut down circuit operates.

MESSUNG DES KRIECHSTROMS IM EINGESCHALTETEN ZUSTAND (Siehe Abb. 1)

1. Den Netzstecker direkt in eine Netsteckdose stecken. Für diese Messung keinen Trenntransformator verwenden.
2. Einen 2k ohm /10 W - Widerstand in Serie mit einem von außen zugänglichen Metallteil am Fernsehgerät und einer guten, Erdung z.B. Wasserleitung, anschließen.
3. Ein Wechselstrom-Voltmeter mit einem Meßbereich von 1000 Ohm/Volt oder größer verwenden, um die Spannung über den Widerstand zu messen.
4. Jedes zugängliche Metallteil prüfen, und an jedem Punkt dies Spannung messen.
5. Den Netztecker umgekehrt in die Steckdose stecken und jede der obigen Messungen wiederholen
6. Die Spannung darf an keinem der Punkte 1.4V eff. überschreiten. Wird dieser Wert nicht eingehalten, besteht die Gefahr eines elektrischen Schlages, und das Fernsehgerät sollte daher repariert und nachgeprüft werden, bevor es an den Kunden zurückgegeben wird.

RÖNTGENSTRAHLUNG

ACHTUNG:

1. Potentielle Quellen von Röntgenstrahlung in Fernsehgeräten sind das Hochspannungsteil und die Bildröhre.
2. Bei Verwendung eines Bildröhren-Prüfgerätes für den Service ist sicherzustellen, daß es für die Belastung von 28.0 kV geeignet ist, ohne daß eine Röntgenstrahlung verursacht wird.

ANMERKUNG: Es ist wichtig , daß ein präzises, regelmäßig geprüftes Voltmeter verwendet wird.

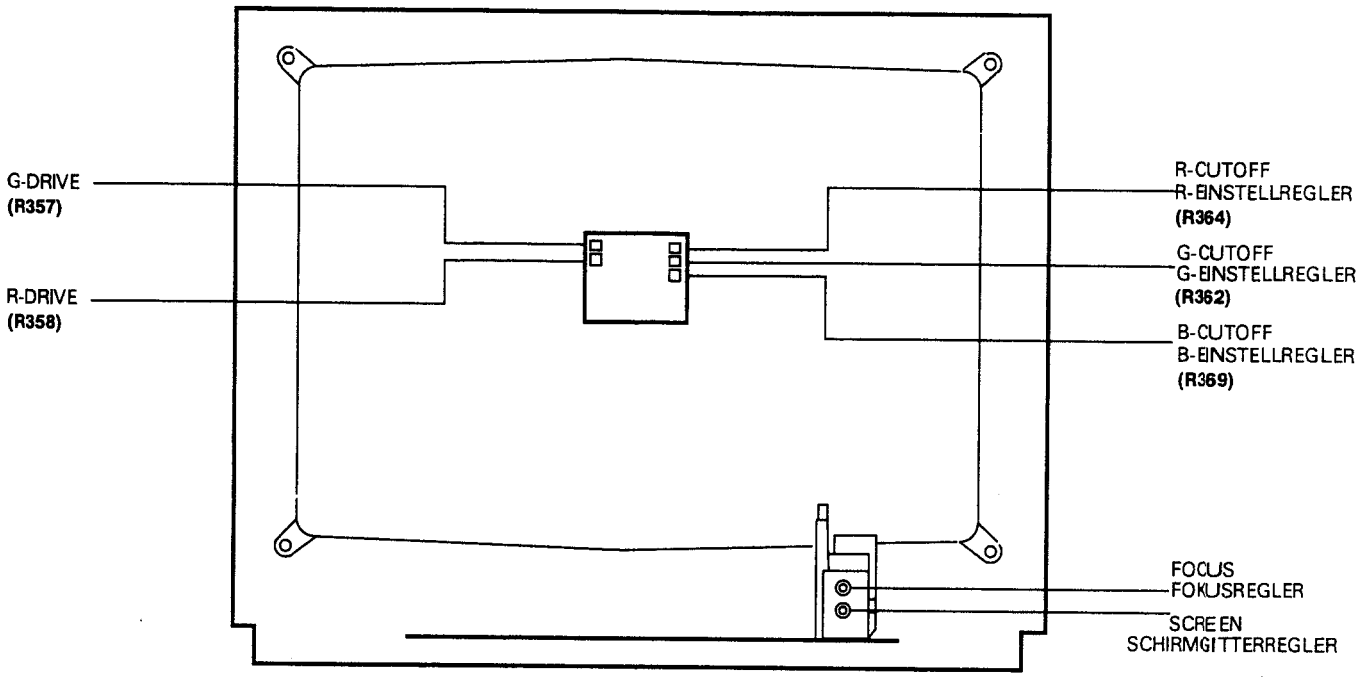
1. Helligkeit auf Minimum stellen.
2. Den Service-Schalter in die 'SERVICE' - Position stellen.
3. Die Hochspannung messen. Die Anzeige des Instrumentes sollte 25.0 kV +/- 1,5 betragen. Falls die Anzeige diese Toleranzgrenzen überschreitet, ist die sofortige Behebung nötig, um die Möglichkeit vorzeitigen Komponentenausfalls zu verhüten.
4. Um die Möglichkeit von Röntgenstrahlung zu begrenzen, ist es wichtig, daß nur die vorgeschriebene Bildröhre verwendet wird.

TEST KURZSCHLLUSS-SICHERHEITSSCHALTUNG

Dieser Test muß als letzte Prüfung vor der Rückgabe des Gerätes an den Kunden durchgeührt werden.

1. Bei abgenommener Rückwand ist dem Gerät 230V Nennspannung zuzuführen, und der Geräteschalter einzuschalten.
2. Ein Phillips-Muster empfangen.
3. Gleichspannung von - 40V an TPE7 einspeisen und sicherstellen, daß die Kurzschluß- Sicherheitsschaltung nicht anspricht.
4. Gleichspannung von - 60V an TPE7 einspeisen und sich vergewissern, daß die Kurzschluß- Sicherheitsschaltung jetzt anspricht.

LOCATION OF CONTROLS KONTROLLANLAGE



E-BOARD TOP VIEW

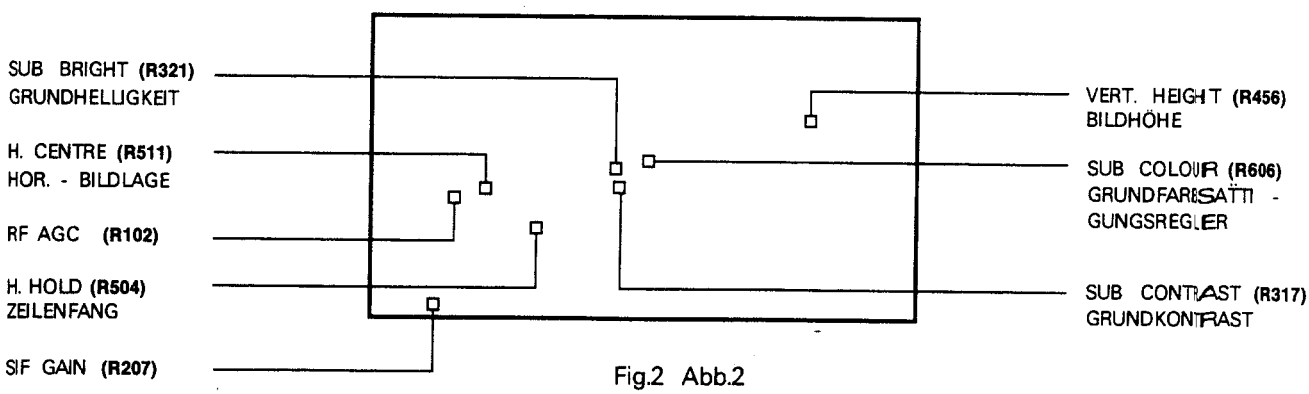


Fig.2 Abb.2

SERVICE HINTS

Removal of E-Board

Note :

If the following procedure is not carried out, damage may occur to E-Board when attempting removal.

1. Using a small screwdriver release the PCB retaining clip (A) as shown in fig. 3 and 4.
2. To remove the PCB from the cabinet, lift the PCB and pull backwards as shown in fig. 5.

WARTUNGSHINWEISE

Ausbau der E-Platine hinweis

Die folgenden hinweis unbedingt beachten, um beschädigungen dere-platine zu vermeiden.

1. Mit einem schmalen schraubendreher den platinenhelter (A) nach oben drücken, wie in Abb.3 und 4 gezeigt.
2. Die platine anhaben und aus dem gehäuse herausziehen, wie in Abb.5 gezeigt.

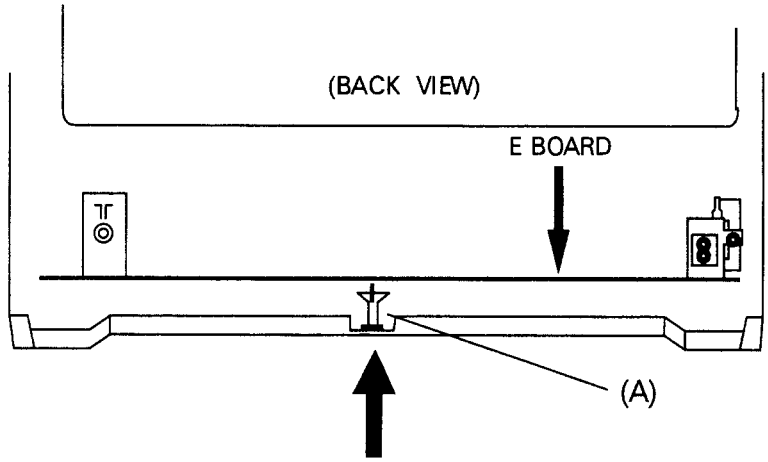


Fig.3 Abb.3

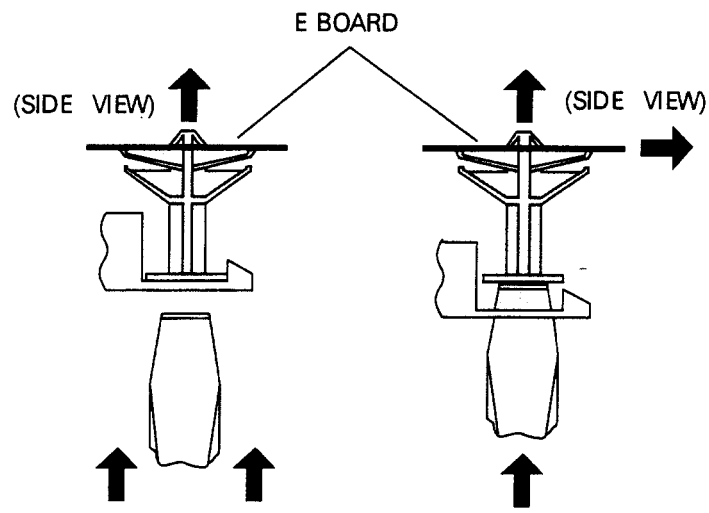


Fig.4 Abb.4

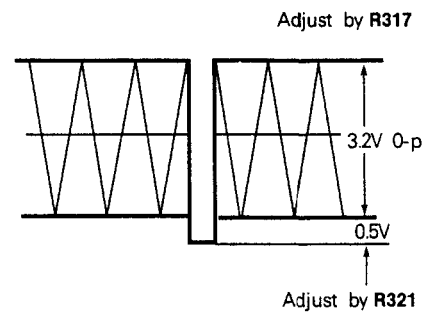
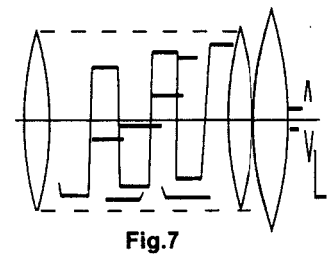
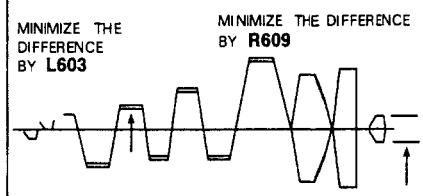
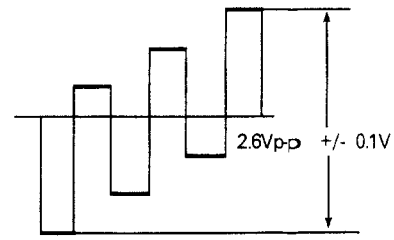
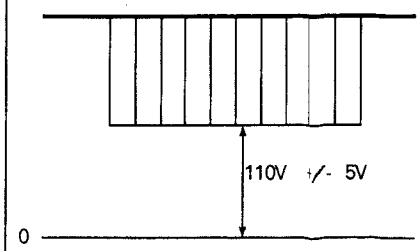
Fig.5 Abb.5

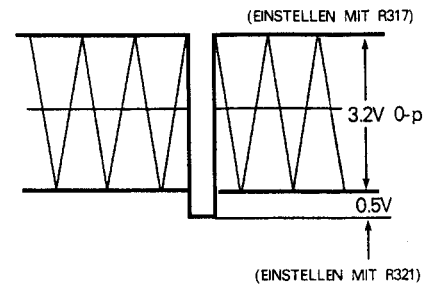
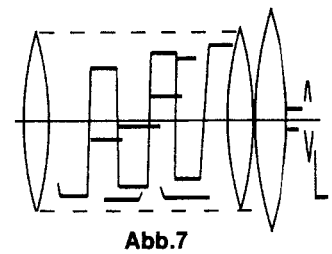
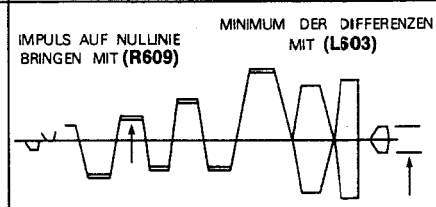
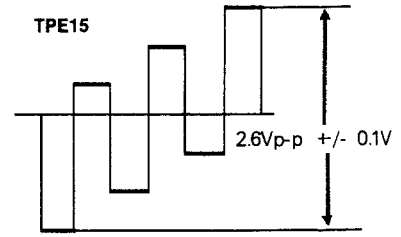
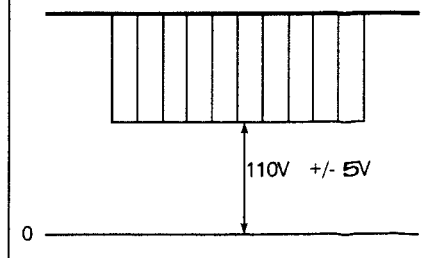
ADJUSTMENTS

ITEM/PREPARATION	ADJUSTMENT PROCEDURE
B VOLTAGE 1. Operate the TV set. 2. Set controls: Bright . . . . . minimum Sub-bright . . . . . minimum Contrast . . . . . minimum	1. Confirm the indicated test points for the specified voltage. **TPE1:** 118.0 +/- 1.5V **TPE5:** 12.0 +/- 1.0 V **TPE2:** 5.0 +/- 0.5 V **TPE10:** 189.0 +/- 10 V **TPE3:** 26.9 +/- 2 V **TPE12:** 8.9 +/- 1.5 V **TPE4:** 16.3 +/- 1.0 V
AFC 1. Operate the TV set. 2. Set a channel in UHF band. 3. Supply 38.9MHz continuous wave to **TPE48** of Tuner. 4. Connect a DVM to **TPE22.**	1. Adjust **L102** so that the voltage at **TPE22** becomes 6.0 +/- 0.3V 2. Change the frequency and confirm the voltage as shown below. + 100 kHz: less than 5.0 V - 100 kHz: more than 7.0 V
RF AGC 1. Receive a colour bar pattern. 2. Set the input level to 60 dB +/- 2 dB (75 ohm open). 3. Connect an oscilloscope to **TPE9** with DC mode.	1. Turn RF AGC control **R102** fully clockwise. 2. Slowly turn **R102** counterclockwise to set it at the point before the voltage at **TPE9** drops. **Note :** In this case, gain range of the oscilloscope is 1 V/div, and set **R102** to a point where the voltage drops by 0.5V.
HIGH VOLTAGE 1. Operate the TV set. 2. Set controls: Bright. . . . . minimum Contrast. . . . . miminum Sub-bright . . . . . minimum	1. Confirm that the High Voltage is within a range of 25.0 kV +/- 1.5 kV. **Note :** If the high voltage is out of tolerance, confirm that voltage at zero beam current (Bright, Contrast and Colour controls to their minimum positions) is within the above tolerance.
TELETEXT CLOCK 1. Operate the TV set and confirm the B voltage. 2. Connect a frequency counter to **TPT6.** 3. Earth **TPT5.**	1. Adjust **C3528**. Reading of the counter : 6.01MHz +/- 200Hz.

JUSTIERUNGEN

ABGLEICHPUNKTE UND VORBEREITUNG	JUSTIERUNG
VERSORGUNGSSPANNUNG B 1. TV einschalten. 2. Die Regler wie folgt einstellen: Helligkeit ..... minimum Grundhelligkeitsregler . minimum Kontrast ..... minimum	1. Die Messungen an den Testpunkten sollen folgende Betriebsspannungen ergeben. **TPE1:** 118.0 +/- 1.5V **TPE5:** 12.0 +/- 1.0 V **TPE2:** 5.0 +/- 0.5 V **TPE10:** 189.0 +/- 10 V **TPE3:** 26.9 +/- 2 V **TPE12:** 8.9 +/- 1.5 V **TPE4:** 16.3 +/- 1.0 V
AFC 1. TV einschalten. 2. Kanal im UHF-Bereich wählen. 3. Meßsender auf 38.9 MHz einstellen und an den Tuner-Testpunkt anschließen. 4. DVM an **TPE22** anschließen.	1. Spule **L102** so abgleichen, daß die Gleichspannung am **TPE22** 6.0V +/- 0.3V beträgt. 2. Die Frequenz ändern, und die Spannung wie folgt kontrollieren: + 100 kHz: Kleiner als 5.0 V - 100 kHz: Größer als 7.0 V
RF AGC 1. Empfang eines Farbbalken - Testbildes. 2. Das Eingangssignal soll mit 60dB +/- 2dB (75 Ω eingespeist werden). 3. Oszilloskop an **TPE9** in DC-Funktion anklemmen.	1. Der Regler RF AGC **R102** ist auf Rechtsanschlag zu stellen. 2. Den Regler **R102** so einstellen, daß er kurz vor dem Punkt steht, an dem der Messwert an **TPE9** absinkt.
HOCHSPANNUNG. 1. TV einschalten. 2. Die regler wie folgt einstellen: Helligkeit ..... minimum Grundhelligkeitsregler . minimum Kontrast ..... minimum	1. Die Hochspannung darf bei 25.0kV eine Toleranz von +/- 1.5kV. **Anmerkung:** Falls die Hochspannung außerhalb der Toleranz liegt, bitte bei minimaler Helligkeit, Kontrast und Farbsättigung prüfen, ob sie innerhalb der Toleranz ist.
VIDEOTEXT-CLOCK-OSZILLATOR 1. TV einschalten und Betriebsspannung B prüfen. 2. Frequenzzähler an **TPT6** anschließen. 3. **TPT5** auf Masse klemmen.	1. **C3528** einstellen. Ablesung des Zählers : 6.01 MHz +/- 200Hz.

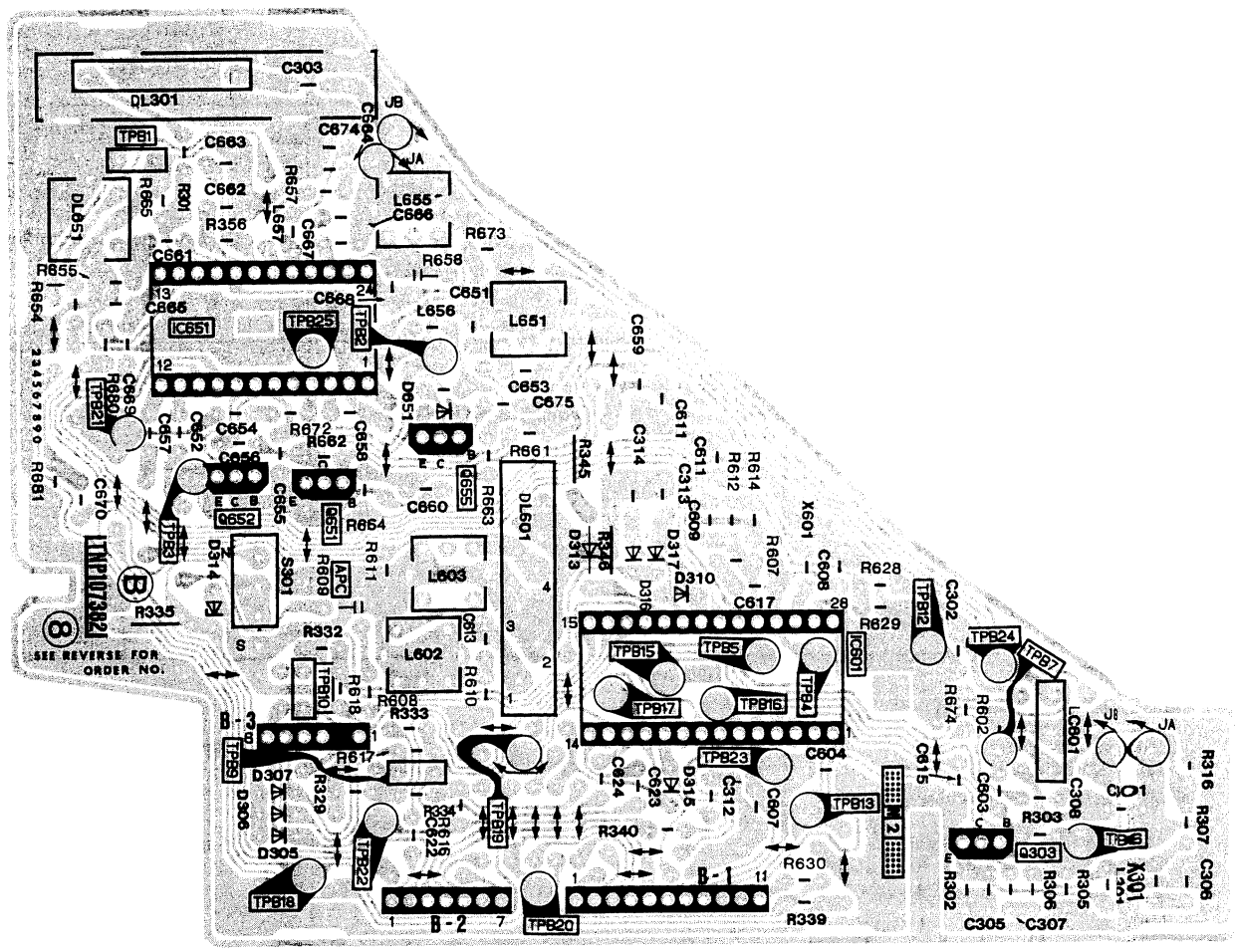
ITEM/PREPARATION	ADJUSTMENT PROCEDURE	WAVEFORM
SUB CONTRAST 1. Receive the Philips pattern. (Input level : 75 dB.) 2. Connect an oscilloscope to **TPE15.** 3. Set controls: Bright ..... minimum Contrast ..... maximum Colour ..... minimum Picture ..... centre 4. Earth **TPE7.**	1. Adjust Sub-Bright **R321** for 0.5V higher than black level. 2. Adjust the Sub-Contrast **R317** for 3.2V p-p. 3. Remove link from **TPE7.**	 **Fig.6**
PAL APC 1. Receive a PAL colour bar pattern. 2. Connect a jumper between : **TPB4** and **TPB5** **TPB13** and **TPB15** 3. Connect oscilloscope to **TPB9.**	1. Adjust APC trimmer **C610** to obtain stationary or slowly moving colour bars as shown in Fig 7. 2. Remove link and confirm colour bars are stationery.	 **Fig.7**
PAL DELAY LINE 1. Receive a PAL colour bar pattern. 2. Connect a 100 ohm resistor across **TPB6** and earth. 3. Connect oscilloscope to **TPB9.**	1. Adjust DL Adj **R609** and DL Matching Trans **L603 /L602** to obtain waveform at **TPB9** as shown in Fig 8.	 **Fig.8**
SUB COLOUR 1. Receive a PAL colour bar pattern. 2. Set controls: Bright ..... minimum Contrast ..... maximum Sub Colour ..... centre 3. Connect an oscilloscope to **TPE15.**	1. Set colour DAC to centre. 2. Adjust sub colour **R606.** For 2.6Vpp +/- 0.1 V at **TPE15.** as shown in Fig 9.	 **Fig.9**
TELETEXT CONTRAST **Note:** Before this adjustment is attempted, white balance adjustment must be finished. 1. Receive a teletext signal. 2. Connect an oscilloscope to **TPY1** 3. Set controls: Bright ..... minimum Contrast ..... maximum	1. Adjust **R3514** to obtain the waveform as shown in Fig 10.	 **Fig.10**

ABGLEICHPUNKTE UND VORBEREITUNG	JUSTIERUNG	SIGNALFORM
GRUNDKONTRAST 1. Empfang eines Farbbalken - Testbildes. 2. Oszilloskop an Testpunkt **TPE15.** 3. Die Regler wie folgt einstellen : Helligkeit ..... minimum Kontrast ..... maximum Farbsättigung ... minimum Bildschärfe .... mittenstellung 4. **TPE7** auf Masse Klemmen	1. Grundhelligkeit **R321** auf 0.5V einstellen. 2. Grundkontrast **R317** auf 3.2 Vss einstellen.	 **Abb.6**
PAL APC 1. Empfang eines PAL - Farbbalkan - Testbildes. 2. Testpunkt **TPB4** mit **TPB5** verbinden und Testpunkt **TPB13** mit **TPB15** verbinden 3. Oszilloskop an **TPB9.**	1. Trimmer **C610** auf minimale Bewegung in den Farbbalken abgleichen (siehe Abb. 7) 2. Brücken entfernen und korrekte Farbbalkenfolge überprüfen.	 **Abb.7**
PAL-VERZÖGERUNGSLEITUNG 1. Empfgang eines PAL - Farbbalken - Testbildes. 2. 100 ohm zwischen **TPB6** und Masse einlöten. 3. Oszilloskop an Testpunkt **TPB9.**	1. Einstellungen mit den Reglern DL Adj. **R609** und der Spule DL Matching Trans. **L603** so vornehmen, daß die Signalform, an Testpunkt **TPB9** erreicht wird, wie Abb. 8 dargestellt **TPB9.**	 **Abb.8**
GRUNDFARBSÄTTIGUNG Grundeinstellung Farbsättigung(SUB COLOUR) 1. Farbbalkentestbild empfangen. 2. Kontrast .....maximum Helligkeit.....minimum Bildschärfe(PICTURE)..... mitte R606 (SUB-COLOUR) . . .mitte 3. Oszillograph an **TPE15** anschliesen.	1. Den Farbsättgungsregler auf Mitte einstellen. 2. An **TPE15** mit **R606** (SUB-COL.) 2.6Vss +/- 0.1 V einstellen.	 **Abb.9**
VIDEOTEXT-KONTRAST **Anmerkung:** Vor dieser Einstellung muß die des Weißabgleiches abgeschlossen sein. 1. Videotext signal empfangen. 2. Oszilloskop an Testpunkt **TPY1** 3. Die Regler wie folgt einstellen: Kontrast .....maximum Helligkeit.....minimum	1. Mit **R3514** die Signalform nach Abb. 10 einstellen.	 **Abb.10**

CONDUCTOR VIEWS
B-BOARD TNP107382AA

ANSICHT DER LEITERBAHNEN
PLATINE B TNP107382AA

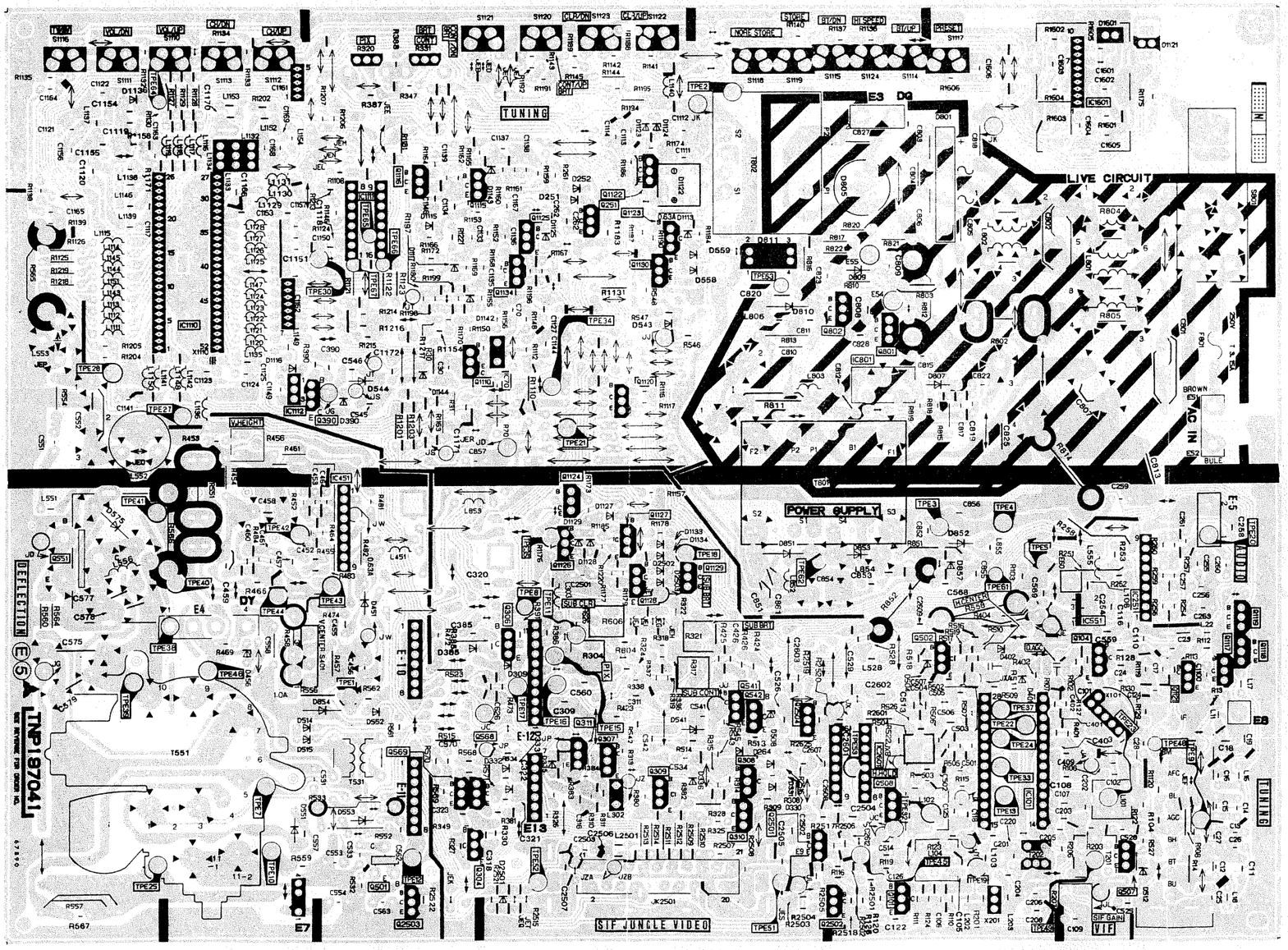
I.C.	IC651 IC601
TRANSISTOR	Q652 Q651 Q655 Q303
DIODE	D307 D306 D305 D314 D651 D313 D315 D317 D316 D310
TEST POINT	TPB1 TPB3 TPB25 TPB10 TPB9 TPB2 TPB19 TPB5 TPB16 TPB4 TPB13 TPB12 TPB24 TPB21 TPB18 TPB22 TPB20 TPB17 TPB15 TPB23 TPB7 TPB6



E-BOARD
TNP197041AN

PLATINE E
TNP197041AN

I.C.	IC1110 IC1112 IC1111 IC451 IC70 IC2601 IC801 IC1601 IC101 IC551 IC251
TRANSISTOR	Q551 Q569 Q568 Q1116 Q1122 Q1123 Q1120 Q251 Q1110 Q1125 Q1124 Q1115 Q1134 Q1126 Q1127 Q1130 Q1128 Q1129 Q541 Q542 Q308 Q2501 Q802 Q801 Q104 Q507 Q1121 Q1117 Q1119 Q1118 Q501 Q2503 Q304 Q306 Q311 Q307 Q309 Q310 Q2502 Q101
DIODE	D1136 D1116 D551 D854 D514 D515 D456 D553 D451 D552 D554 D390 D1115 D1144 D1143 D1142 D385 D1117 D309 D333 D332 D2501 D1125 D335 D1127 D1123 D1129 D1128 D1113 D558 D1122 D559 D1133 D1134 D2502 D336 D1124 D543 D541 D811 D264 D330 D331 D810 D851 D508 D809 D853 D805 D801 D807 D852 D401 D1601 D1121 D512
TEST POINT	TPE25 TPE28 TPE27 TPE40 TPE41 TPE39 TPE38 TPE7 TPE10 TPE42 TPE43 TPE1 TPE11 TPE17 TPE8 TPE15 TPE16 TPE21 TPE52 TPE18 TPE2 TPE51 TPE53 TPE3 TPE4 TPE5 TPE13 TPE22 TPE33 TPE37 TPE24 TPE23 TPE48 TPE9 TPE20



NOTES:

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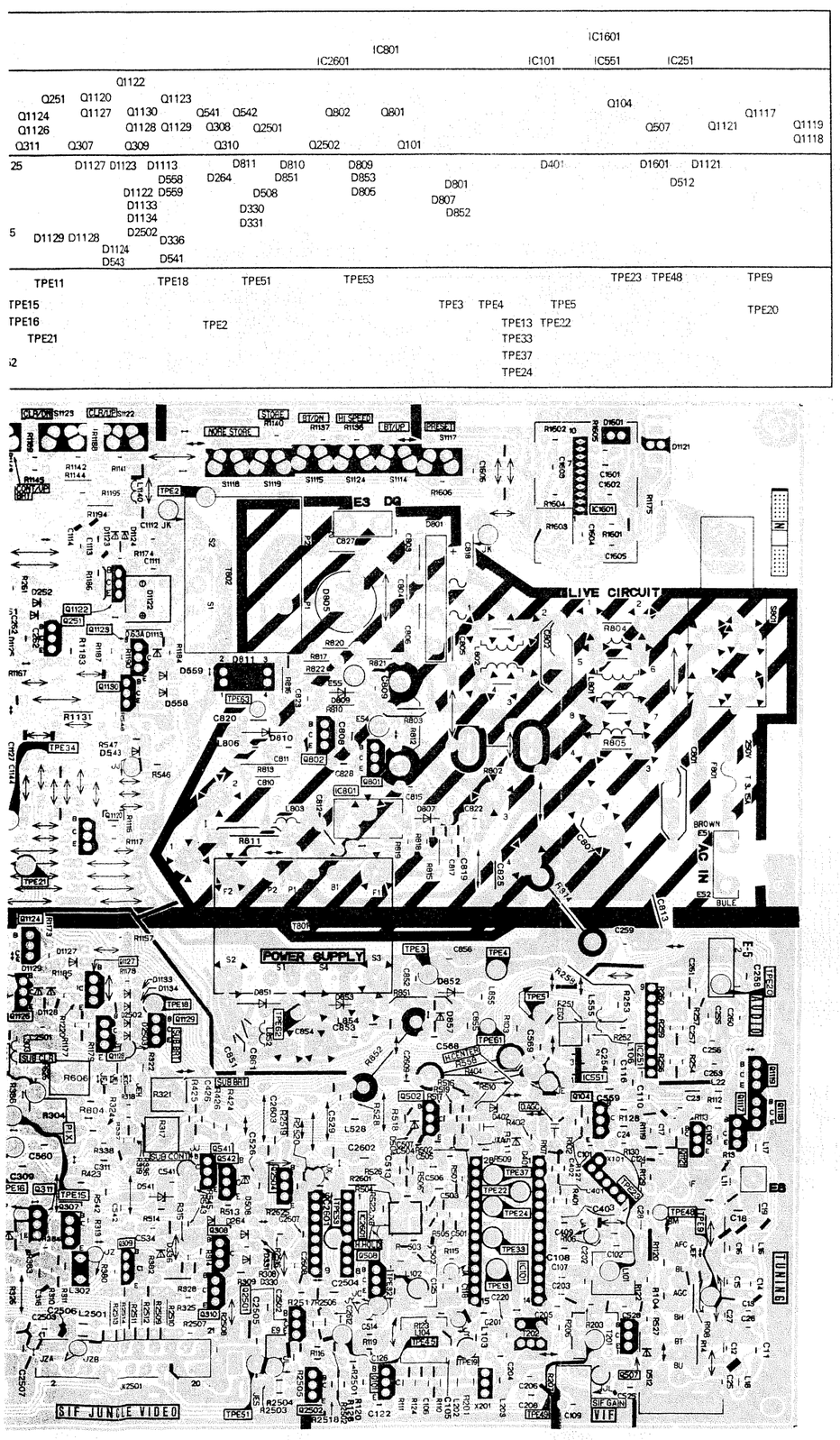
   R556

PLATINE E
TNP197041AN


IC1601
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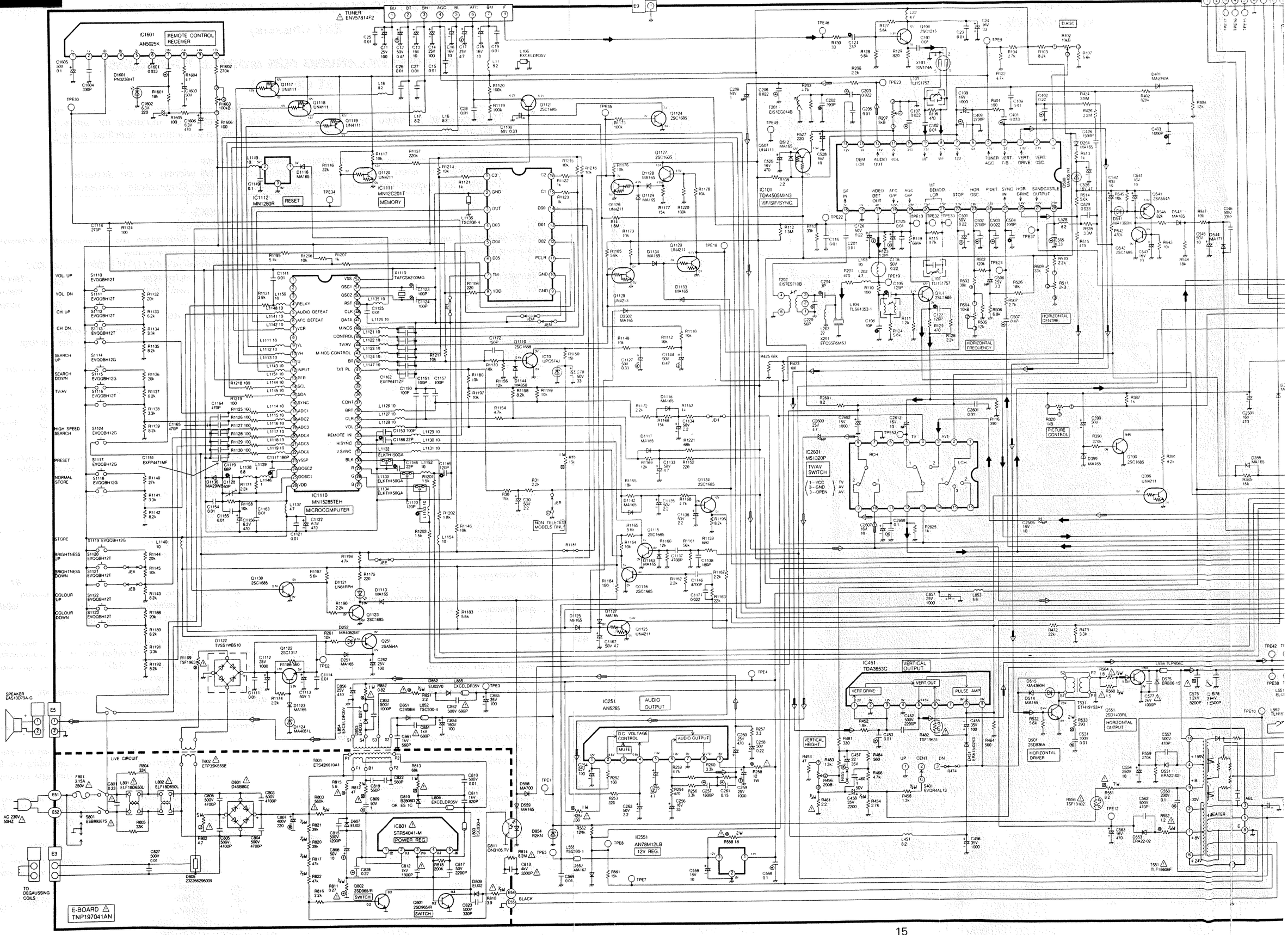
TUNER
ENV57814F2
IC1501
AN5025K
REMOTE CONTROL RECEIVER
IC1112
MN1280R
RESET
IC1111
MN12C201T
MEMORY
IC1110
MN15285TEH
MICROCOMPUTER
IC101
TDA4505M/N3
VIF/SIF/SYNC.
IC2601
M51320P
TV/AV SWITCH
IC451
TDA3653C
VERTICAL OUTPUT
IC251
AN5265
AUDIO OUTPUT
IC801
STR54041-M
POWER REG.
IC551
AN78M12LB
12V REG.
IC70
UPC574J
D.AGC
HORIZONTAL FREQUENCY
HORIZONTAL CENTRE
PICTURE CONTROL
HORIZONTAL DRIVER
HORIZONTAL OUTPUT
VERTICAL HEIGHT
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VOL DN
CH UP
CH DN.
SEARCH UP
SEARCH DOWN
TV/AV
HIGH SPEED SEARCH
PRESET
NORMAL STORE
STORE
BRIGHTNESS UP
BRIGHTNESS DOWN
COLOUR UP
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E-BOARD
TNP197041AN
FROM TELETEXT MODELS ONLY
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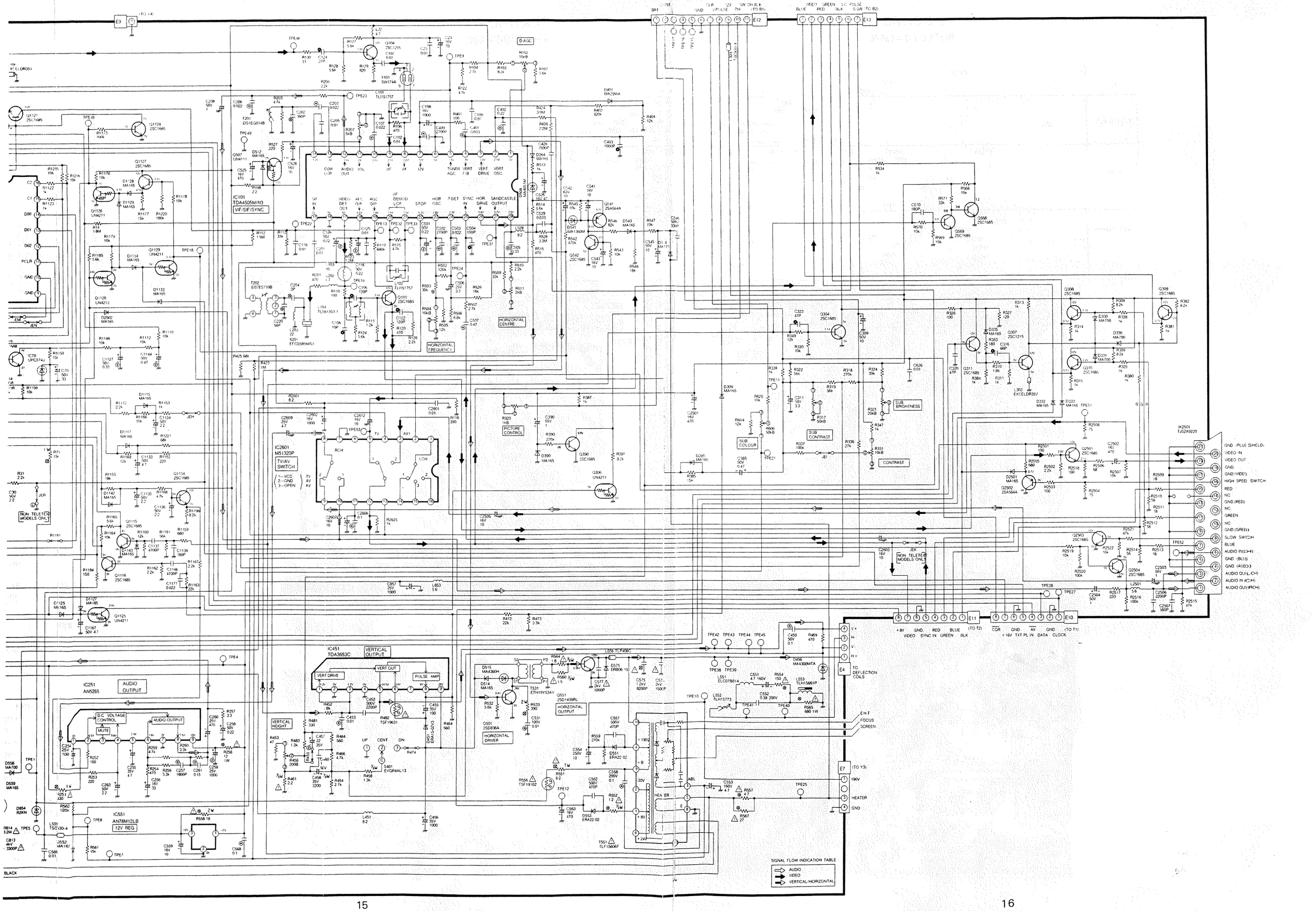
IC101
TDA4505M/N3
VIF/SIF/SYNC
IC2601
M51320P
TV/AV SWITCH
IC451
TDA3653C
VERTICAL OUTPUT
IC251
AN5265
AUDIO OUTPUT
IC551
AN78M12LB
12V REG
HORIZONTAL CENTRE
HORIZONTAL FREQUENCY
PICTURE CONTROL
SUB BRIGHTNESS
SUB CONTRAST
SUB COLOUR
CONTRAST
HORIZONTAL OUTPUT
HORIZONTAL DRIVER
VERTICAL HEIGHT
NON TELETEXT MODELS ONLY
TO DEFLECTION COILS
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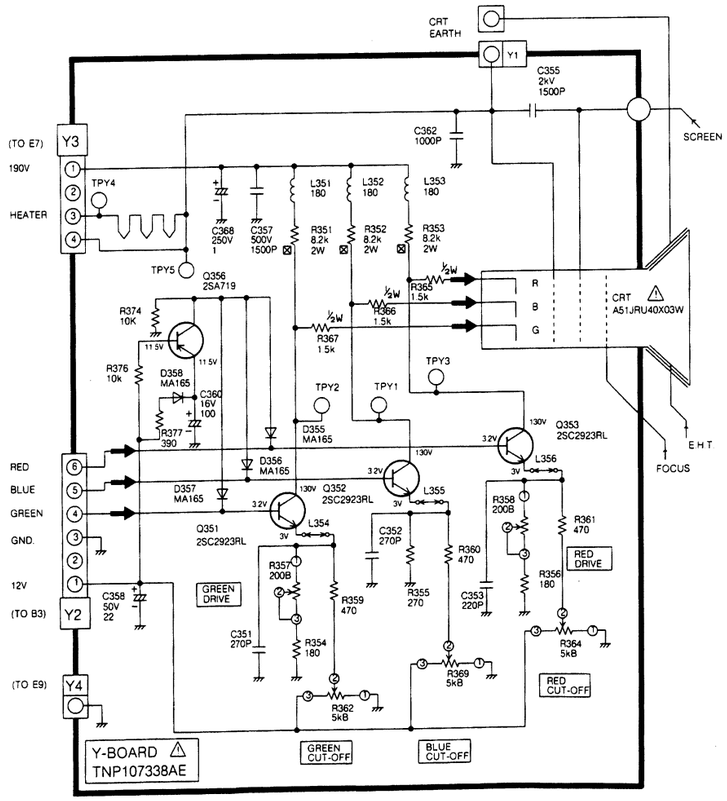
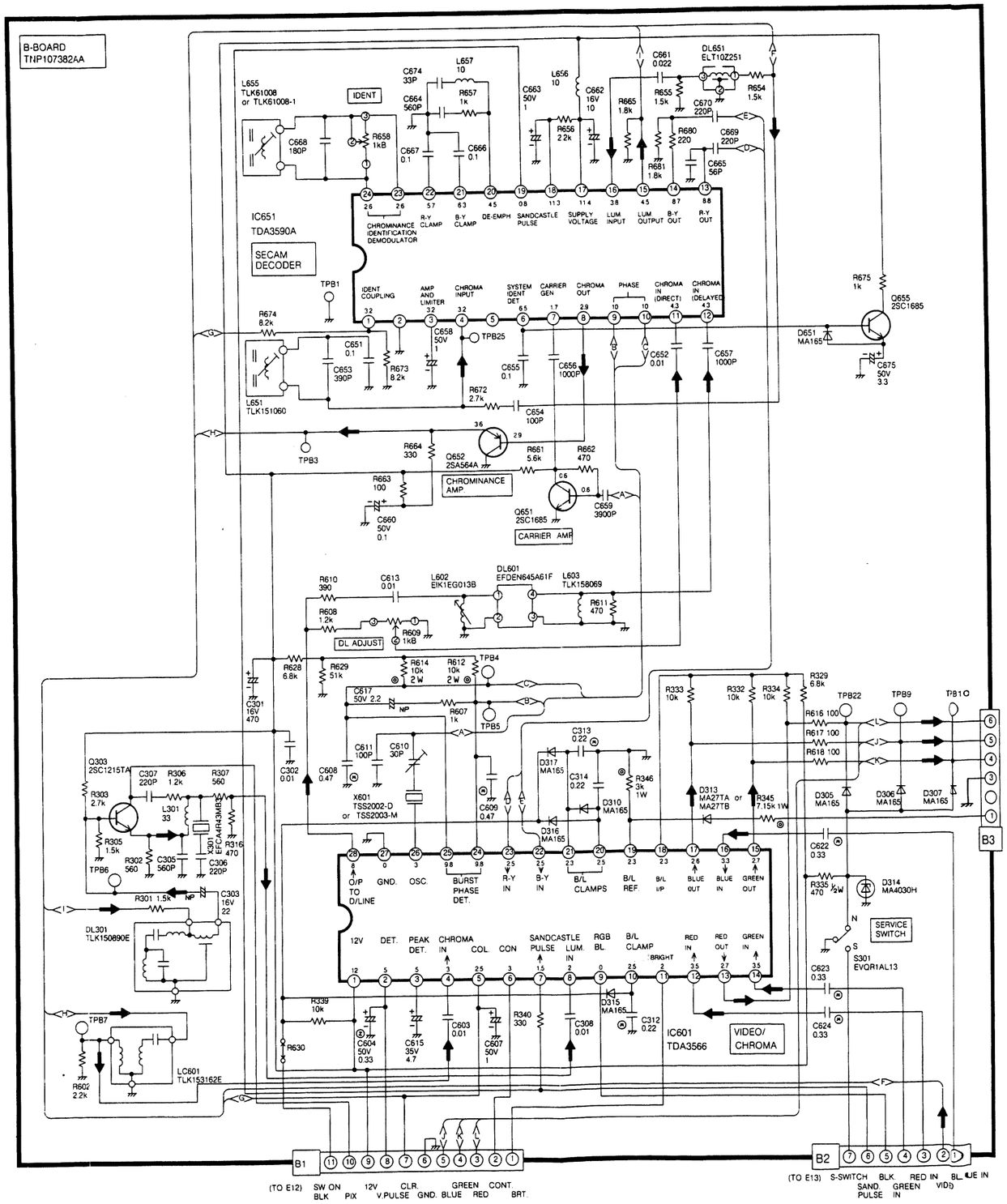
FOCUS
SCREEN
SIGNAL FLOW INDICATION TABLE
AUDIO
VIDEO
VERTICAL/HORIZONTAL
BLACK

WAVEFORM PATTERN TABLE
SIGNAL TABELLE

Pin 17 IC101 2.6Vp-p (20uS)	TPT1 2.5Vp-p (20uS)	Pin 1 IC3501 2.5Vp-p (20uS)	Pin 4 IC601 0.2Vp-p (20uS)
Pin 8 IC601 0.5Vp-p (20uS)	Pin 28 IC601 1.6Vp-p (20uS)	PIN 23 IC601 0.5Vp-p (20uS)	Pin 22 IC601 0.3Vp-p (20uS)
COLLECTOR Q551 1500Vp-p (20uS)	BASE Q551 15Vp-p (20uS)	Pin 26 IC101 1.6Vp-p (20uS)	Pin 23 IC101 3Vp-p (20uS)
PIN 8 IC451 2.8Vp-p (5mS)	TPE42 45Vp-p (5mS)	Pin 3 IC101 4.0Vp-p (5mS)	Pin 1 IC451 3.8Vp-p (5mS)
Pin 10 T551 22Vp-p (20uS)	Pin 4 T551 75Vp-p (20uS)	TPB8 3.2Vp-p (20uS)	TPB9 3.2Vp-p (20uS)
TPB10 3.2Vp-p (20uS)	TPY1 115Vp-p (20uS)	TPY2 120Vp-p (20uS)	TPY3 120Vp-p (20uS)

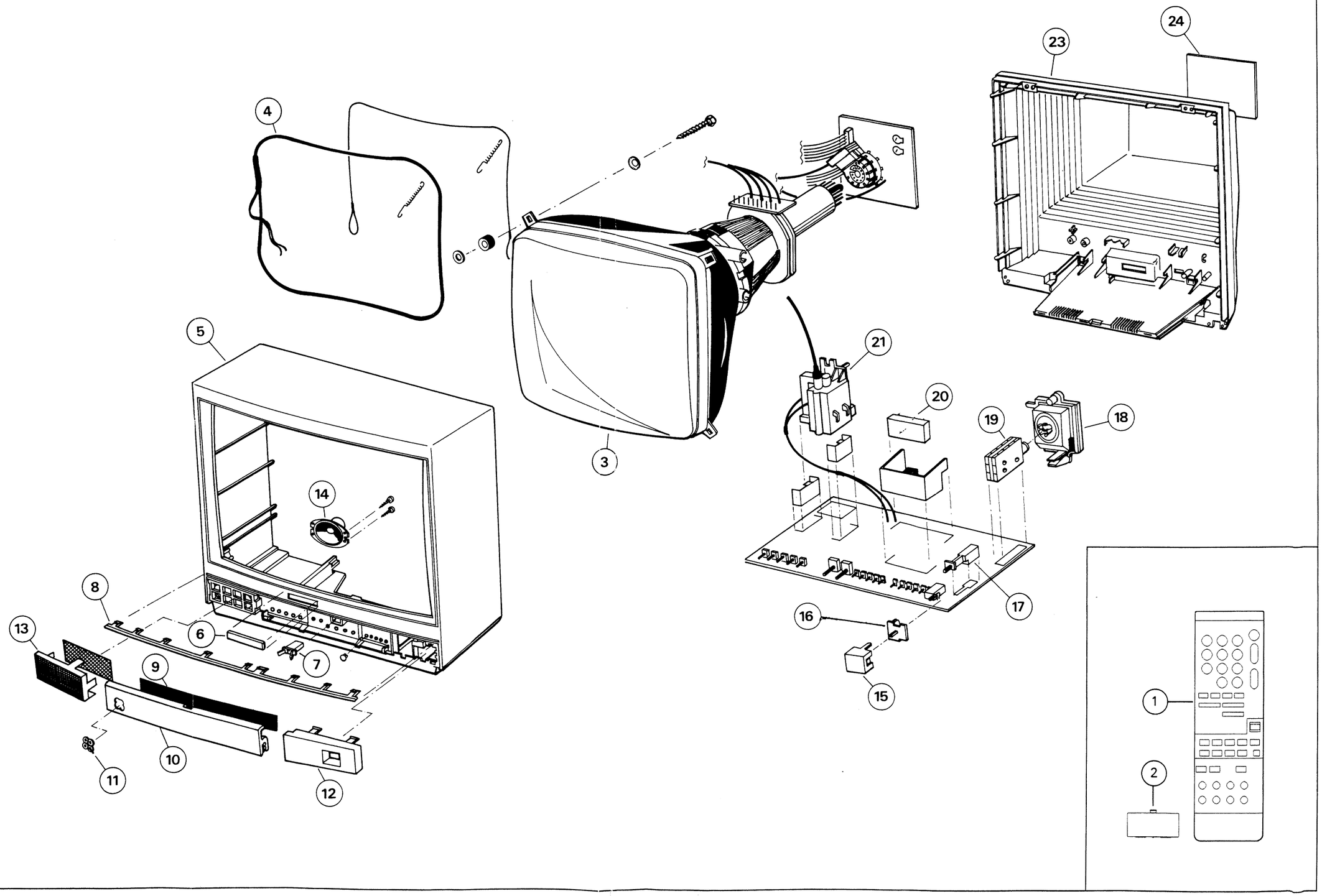




PARTS LOCATION EXPLOSIONSZEICHNUNG

Anmerkung :
Die Nummer auf den mechanischen Teilen zeigt die Bezugsnummer der Ersatzteilliste an.

Note :
The number on mechanical parts indicates Ref. No of Replacement Parts List.



REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

ERSATZTEILLISTE

Wichtiger Sicherheitshinweis

Teile, die mit einen Hinweis ⚠ gekennzeichnet sind, sind wichtig für die Sicherheit. Sollte ein Auswechsein erforderlich sein, sind unbedingt Originalteile einzusetzen.

Ref No.		Part No.	Description
MISCELLANEOUS COMPONENTS			
1)		TNQ8E0440	REMOTE CONTROL
2)		FA11D2101	BATTERY LID
3)	⚠	A51JRU40X03W	C. R. T.
4)		TLK8E05106	DEGAUSSING COIL
5)	⚠	TKY181700	CABINET
6)		TBM173035-1	PANASONIC BADGE
7)		TEK17918	LID SWITCH
8)		TKR24680	CABINET TRIM
9)		TBM120852-1	PRESET PANEL
10)		TKP1810881	CONTROL PANEL LID
11)		TBM17461	QUINTRIX BADGE
12)		TKP1810891	SMOKED PANEL
13)		TKP1757461	SPEAKER GRILLE
14)		EAS10D79AG	SPEAKER
15)		TBX1889800	POWERBUTTON
16)		TKK188504	ON / OFF SPACER
17)	⚠S801	ESB99267S	ON / OFF SWITCH
18)		TKK188502-2	ANTENNA COVER
19)		ENV57814F2	TUNER
20)		TJS2A9220	21 PIN TERMINAL
21)	⚠T551	TLF15606F	F. B. TRANSFORMER
23)	⚠	TKU529600	REAR COVER
24)		TBM8E1094	REAR COVER LABEL
	⚠	TNP107338AE	Y P. C. B.
	⚠	TNP107382AA	B P. C. B.
	⚠	TNP197041AN	E P. C. B.
		TMM15582	PUSH PLATE SPACER
		THE492-4	NUT
		TBM120809	21 PIN LABEL
		TPC8E4214	OUTER CARTON
		TPD8E511	CUSHION (TOP)
		TPD8E512	CUSHION (BOTTOM)
		TQB8E0571	INSTRUCTION BOOK
	⚠	TSX5131	POWER LEAD
DL301		TLK150890E	DELAY LINE
DL601		EFDEN645A61F	DELAY LINE
DL651		ELT10Z251	COIL
F801	⚠	2133. 15	FUSE
	⚠	520-001	FUSE HOLDER
CAPACITORS			
C11		ECEA1EU101	ELECTROLYTIC 25V 100μF
C12		ECEA50ZR47	ELECTROLYTIC 50V 0. 47μF
C13		ECEA1CU100	ELECTROLYTIC 16V 10μF
C14		ECEA1EU101	ELECTROLYTIC 25V 100μF
C15		ECKC1H103JB	CERAMIC 50V 10nF
C16		ECEA1CU100	ELECTROLYTIC 16V 10μF
C17		ECEA25Z4R7	ELECTROLYTIC 25V 4. 7μF
C18		ECEA1CU100	ELECTROLYTIC 16V 10μF
C19		ECKC1H103JB	CERAMIC 50V 10nF
C23		ECKC1H103JB	CERAMIC 50V 10nF
C24		ECEA1CU330	ELECTROLYTIC 16V 33μF
C25		ECKC1H103JB	CERAMIC 50V 10nF
C26		ECKC1H103JB	CERAMIC 50V 10nF
C27		ECKC1H103JB	CERAMIC 50V 10nF
C28		ECKC1H103JB	CERAMIC 50V 10nF
C30		ECEA1HU2R2	ELECTROLYTIC 50V 2. 2μF
C70		ECEA1HU330	ELECTROLYTIC 50V 33μF
C101		ECKC1H103JB	CERAMIC 50V 10nF
C102		ECKC1H103JB	CERAMIC 50V 10nF
C105		ECCR1H121J	CERAMIC 50V 120pF
C106		ECCR1H100J	CERAMIC 50V 10pF
C107		ECQM1H223J	PLASTIC FILM 50V 22nF
C108		ECEA1CU102	ELECTROLYTIC 16V 1000μF
C109		ECKC1H103JB	CERAMIC 50V 10nF
C116		ECKC1H103JB	CERAMIC 50V 10nF
C118		ECEA50ZR22	ELECTROLYTIC 50V 0. 22μF
C122		ECCR1H121J	CERAMIC 50V 120pF
C124		ECCR1H270J	CERAMIC 50V 27pF

Ref No.		Part No.	Description
C125		ECKC1H103JB	CERAMIC 50V 10nF
C126		ECEA50ZR22	ELECTROLYTIC 50V 0. 22μF
C201		ECKC1H103JB	CERAMIC 50V 10nF
C202		ECCR1H391J	CERAMIC 50V 390pF
C203		ECQM1H223J	PLASTIC FILM 50V 22nF
C204		ECCR1H030J	CERAMIC 50V 03pF
C205		ECKC1H103JB	CERAMIC 50V 10nF
C206		ECQM1H223J	PLASTIC FILM 50V 22nF
C208		ECEA1HN010	ELECTROLYTIC 50V 01μF
C220		ECCR1H560J	CERAMIC 50V 56pF
C254		ECEA1EU101	ELECTROLYTIC 25V 100μF
C255		ECEA1VU4R7	ELECTROLYTIC 35V 4. 7μF
C256		ECEA1CU330	ELECTROLYTIC 16V 33μF
C257		ECQM1H182J	PLASTIC FILM 50V 1. 8nF
C258		ECEA50ZR22	ELECTROLYTIC 50V 0. 22μF
C259		ECEA1EU102	ELECTROLYTIC 25V 1000μF
C260		ECEA1EU471	ELECTROLYTIC 25V 470μF
C261		ECQV1H154JZ	PLASTIC FILM 50V 150nF
C262		ECEA1EU101	ELECTROLYTIC 25V 100μF
C263		ECEA1HU2R2	ELECTROLYTIC 50V 2. 2μF
C301		ECEA1CU471	ELECTROLYTIC 16V 470μF
C302		ECKC1H103JB	CERAMIC 50V 10nF
C303		ECEA1CN220	ELECTROLYTIC 16V 22μF
C305		ECKC1H561J	CERAMIC 50V 560pF
C306		ECCR1H221J	CERAMIC 50V 220pF
C307		ECCR1H221J	CERAMIC 50V 220pF
C308		ECKC1H103JB	CERAMIC 50V 10nF
C309		ECEA1HU100	ELECTROLYTIC 50V 10μF
C311		ECEA1HU3R3	ELECTROLYTIC 50V 3. 3μF
C312		ECQV1H224JZ	PLASTIC FILM 50V 220nF
C313		ECQV1H224JZ	PLASTIC FILM 50V 220nF
C314		ECQV1H224JZ	PLASTIC FILM 50V 220nF
C316		ECCR1H680J	CERAMIC 50V 68pF
C320		ECCR1H470J	CERAMIC 50V 47pF
C323		ECCR1H470J	CERAMIC 50V 47pF
C351		ECCR1H271J	CERAMIC 50V 270pF
C352		ECCR1H271J	CERAMIC 50V 270pF
C353		ECCR1H221J	CERAMIC 50V 220pF
C355	⚠	ECKC3D152J	CERAMIC 2KV 1. 5nF
C357	⚠	ECKC2H152J	CERAMIC 500V 1. 5nF
C358	⚠	ECEA1HU220	ELECTROLYTIC 50V 22μF
C360		ECEA1CU101	ELECTROLYTIC 16V 100μF
C362		ECKC1H102J	CERAMIC 50V 1. 0nF
C368		ECEA2EU010	ELECTROLYTIC 250V 01μF
C385		ECEA50ZR47	ELECTROLYTIC 50V 0. 47μF
C390		ECEA1HU010	ELECTROLYTIC 50V 01μF
C401		ECQM1H333J	PLASTIC FILM 50V 33nF
C402		ECQV1H224JZ	PLASTIC FILM 50V 220nF
C403		ECKC1H102J	CERAMIC 50V 1. 0nF
C409		ECQM1H272J	PLASTIC FILM 50V 2. 7nF
C426		ECKC1H152J	CERAMIC 50V 1. 5nF
C452	⚠	ECKC2H222J	CERAMIC 500V 2. 2nF
C453		ECKC1H103JB	CERAMIC 50V 10nF
C455		ECEA1VU101	ELECTROLYTIC 35V 100μF
C456		ECEA1VU102	ELECTROLYTIC 35V 1000μF
C457		ECEA1VFS220	ELECTROLYTIC 35V 22μF
C458		ECEA1VU222	ELECTROLYTIC 35V 2200μF
C459		ECQV1H224JZ	PLASTIC FILM 50V 220nF
C460		ECQV1H105JZ	PLASTIC FILM 50V 1. 0μF
C501		ECEA50ZR22	ELECTROLYTIC 50V 0. 22μF
C502		ECQM1272GZ	PLASTIC FILM 100V 2. 7nF
C503		ECQM1H223J	PLASTIC FILM 50V 22nF
C504		ECCR1H101J	CERAMIC 50V 100pF
C505		ECQV1H334JZ	PLASTIC FILM 50V 330nF
C506		ECEA1EN3R3	ELECTROLYTIC 25V 3. 3μF
C507		ECQV1H474JZ	PLASTIC FILM 50V 470nF
C525		ECEA1CU471	ELECTROLYTIC 16V 470μF
C526		ECEA1CU470	ELECTROLYTIC 16V 47μF
C528		ECEA1CU100	ELECTROLYTIC 16V 10μF
C529		ECQV1H333JZ	PLASTIC FILM 50V 33nF
C531		ECQM1103KZ	PLASTIC FILM 100V 10nF

Ref No.	Part No.	Description		
C541 ⚠	ECEA1CU100	ELECTROLYTIC	16V	10μF
C542 ⚠	ECEA1JU100	ELECTROLYTIC	63V	10μF
C543 ⚠	ECEA1CU100	ELECTROLYTIC	16V	10μF
C545	ECEA1HU100	ELECTROLYTIC	50V	10μF
C546 ⚠	ECKC2H331J	CERAMIC	500V	330pF
C551	ECEA2CS4R7	ELECTROLYTIC	160V	4.7μF
C552	ECWF2H394JZ	CERAMIC	500V	390nF
C553	ECEA2CS4R7	ELECTROLYTIC	160V	4.7μF
C554	ECEA2EU100	ELECTROLYTIC	250V	10μF
C557 ⚠	ECKC2H471J	CERAMIC	500V	470pF
C558	ECQM2104KZ	PLASTIC FILM	200V	100nF
C559	ECEA1CU100	ELECTROLYTIC	16V	10μF
C562 ⚠	ECKC2H471J	CERAMIC	500V	470pF
C563	ECEA1CU471	ELECTROLYTIC	16V	470μF
C568	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C569	ECKC1H103JB	CERAMIC	50V	10nF
C570	ECKC1H181J	CERAMIC	50V	180pF
C575	ECWH12H822J	CERAMIC	500V	8.2nF
C577 ⚠	ECKC3D102J	CERAMIC	2KV	1.0nF
C578 ⚠	ECKC3D152J	CERAMIC	2KV	1.5nF
C603	ECKC1H103JB	CERAMIC	50V	10nF
C604	ECEA50ZR33	ELECTROLYTIC	50V	0.33μF
C607	ECEA1HU010	ELECTROLYTIC	50V	01μF
C608	ECQV1H474JZ	PLASTIC FILM	50V	470nF
C609	ECQV1H474JZ	PLASTIC FILM	50V	470nF
C610	ECRLA030E53R	TRIMMER CAPACITOR		30pF
C611	ECCR1H101J	CERAMIC	50V	100pF
C613	ECKC1H103JB	CERAMIC	50V	10nF
C615	ECEA1VU4R7	ELECTROLYTIC	35V	4.7μF
C617	ECEA1HN2R2	ELECTROLYTIC	50V	2.2μF
C622	ECQV1H334JZ	PLASTIC FILM	50V	330nF
C623	ECQV1H334JZ	PLASTIC FILM	50V	330nF
C624	ECQV1H334JZ	PLASTIC FILM	50V	330nF
C626	ECKC1H103JB	CERAMIC	50V	10nF
C651	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C652	ECKC1H103JB	CERAMIC	50V	10nF
C653	ECCR1H391J	CERAMIC	50V	390pF
C654	ECCR1H101J	CERAMIC	50V	100pF
C655	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C656	ECKC1H102J	CERAMIC	50V	1.0nF
C657	ECKC1H102J	CERAMIC	50V	1.0nF
C658	ECEA1HU010	ELECTROLYTIC	50V	01μF
C659	ECKC1H392J	CERAMIC	50V	3.9nF
C660	ECEA50ZR1	ELECTROLYTIC	50V	0.1μF
C661	ECQM1H223J	PLASTIC FILM	50V	22nF
C662	ECEA1CU100	ELECTROLYTIC	16V	10μF
C663	ECEA1HU010	ELECTROLYTIC	50V	01μF
C664	ECKC1H561J	CERAMIC	50V	560pF
C665	ECCR1H560J	CERAMIC	50V	56pF
C666	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C667	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C668	ECCR1H181J	CERAMIC	50V	180pF
C669	ECKC1H221J	CERAMIC	50V	220pF
C670	ECKC1H221J	CERAMIC	50V	220pF
C674	ECCR1H330J	CERAMIC	50V	33pF
C675	ECEA1HU3R3	ELECTROLYTIC	50V	3.3μF
C801 ⚠	ECQM2A334MW	PLASTIC FILM	100V	330nF
C803 ⚠	ECKC2H472J	CERAMIC	500V	4.7nF
C804 ⚠	ECKC2H472J	CERAMIC	500V	4.7nF
C805 ⚠	ECKC2H472J	CERAMIC	500V	4.7nF
C806 ⚠	ECKC2H472J	CERAMIC	500V	4.7nF
C807 ⚠	ECES2GU221	ELECTROLYTIC	400V	220μF
C808	ECEA1HFS100	ELECTROLYTIC	50V	10μF
C809	ECQV1H105JZ	PLASTIC FILM	50V	1.0μF
C810 ⚠	ECKC2H103J	CERAMIC	500V	10nF
C811 ⚠	ECKC3A821J	CERAMIC	1KV	820pF
C812 ⚠	ECKC3A182J	CERAMIC	1KV	1.8nF
C813 ⚠	ECKCNS332J	CERAMIC	1.2KV	3.3nF
C815 ⚠	ECKC2H122J	CERAMIC	500V	1.2nF
C817	ECKC1H222J	CERAMIC	50V	2.2nF
C819	ECKC1H561J	CERAMIC	50V	560pF
C822	ECKC1H561J	CERAMIC	50V	560pF
C823 ⚠	ECKC2H331J	CERAMIC	500V	330pF
C827 ⚠	ECKC2H103J	CERAMIC	500V	10nF
C828	ECQV1H224JZ	PLASTIC FILM	50V	220nF
C851 ⚠	ECKC3A681J	CERAMIC	1KV	680pF
C852 ⚠	ECKC2H681J	CERAMIC	500V	680pF
C853 ⚠	ECKC2H102J	CERAMIC	500V	1.0nF
C854	ECEA2CS101	ELECTROLYTIC	160V	100μF
C855	ECEA1VGE101	ELECTROLYTIC	35V	100μF
C856	ECEA1EGE471	ELECTROLYTIC	50V	470μF
C857	ECEA1EU102	ELECTROLYTIC	25V	1000μF

Ref No.	Part No.	Description		
C861 ⚠	ECKC3A561J	CERAMIC	1KV	560pF
C1100	ECEA50ZR33	ELECTROLYTIC	50V	0.33μF
C1111	ECKC1H103JB	CERAMIC	50V	10nF
C1112	ECEA1EU471	ELECTROLYTIC	25V	470μF
C1113	ECEA1HU010	ELECTROLYTIC	50V	01μF
C1114	ECKC1H103JB	CERAMIC	50V	10nF
C1117	ECCR1H181J	CERAMIC	50V	180pF
C1118	ECKC1H271J	CERAMIC	50V	270pF
C1119	ECCR1H680J	CERAMIC	50V	68pF
C1120	ECRHA060G11	TRIMMER CAPACITOR		60pF
C1121	ECKC1H103JB	CERAMIC	50V	10nF
C1122	ECEA0JU471	ELECTROLYTIC	6.3V	470μF
C1123	ECCR1H101J	CERAMIC	50V	100pF
C1124	ECCR1H101J	CERAMIC	50V	100pF
C1125	ECKC1H103JB	CERAMIC	50V	10nF
C1127	ECEA50ZR33	ELECTROLYTIC	50V	0.33μF
C1133	ECEA1HU4R7	ELECTROLYTIC	50V	4.7μF
C1134	ECEA1HU2R2	ELECTROLYTIC	50V	2.2μF
C1135	ECEA1HU2R2	ELECTROLYTIC	50V	2.2μF
C1136	ECEA1HU2R2	ELECTROLYTIC	50V	2.2μF
C1137	ECKC1H472J	CERAMIC	50V	4.7nF
C1138	ECKC1H181J	CERAMIC	50V	180pF
C1141	ECKC1H103JB	CERAMIC	50V	10nF
C1144	ECEA50ZR47	ELECTROLYTIC	50V	0.47μF
C1146	ECKC1H472J	CERAMIC	50V	4.7nF
C1149	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C1150	ECKC1H101J	CERAMIC	50V	100pF
C1151	ECKC1H101J	CERAMIC	50V	100pF
C1153	ECCR1H101J	CERAMIC	50V	100pF
C1154	ECKC1H103JB	CERAMIC	50V	10nF
C1155	ECKC1H103JB	CERAMIC	50V	10nF
C1156	ECEA0JU471	ELECTROLYTIC	6.3V	470μF
C1157	ECKC1H101J	CERAMIC	50V	100pF
C1161	EXFP4471MF	NETWORK COMPONENT		
C1162	EXFP6471ZF	NETWORK COMPONENT		
C1163	ECKC1H103JB	CERAMIC	50V	10nF
C1164	ECKC1H471J	CERAMIC	50V	470pF
C1165	ECKC1H471J	CERAMIC	50V	470pF
C1166	ECCR1H220J	CERAMIC	50V	22pF
C1167	ECEA1HU4R7	ELECTROLYTIC	50V	4.7μF
C1168	ECCR1H220J	CERAMIC	50V	22pF
C1169	ECCR1H121J	CERAMIC	50V	120pF
C1170	ECCR1H121J	CERAMIC	50V	120pF
C1171	ECQM1H223J	PLASTIC FILM	50V	22nF
C1172	ECCR1H151J	CERAMIC	50V	150pF
C1601	ECQM1H333J	PLASTIC FILM	50V	33nF
C1602	ECEA0JU221	ELECTROLYTIC	6.3V	220μF
C1603	ECEA1HU010	ELECTROLYTIC	50V	01μF
C1604	ECKC1H331J	CERAMIC	50V	330pF
C1605	ECEA1HU0R1	ELECTROLYTIC	50V	0.1μF
C1606	ECEA0JU471	ELECTROLYTIC	6.3V	470μF
C2501	ECEA1CU471	ELECTROLYTIC	16V	470μF
C2502	ECEA1CU471	ELECTROLYTIC	16V	470μF
C2503	ECEA1HN010	ELECTROLYTIC	50V	01μF
C2504	ECEA1HU010	ELECTROLYTIC	50V	01μF
C2505	ECEA1CN100	ELECTROLYTIC	16V	10μF
C2506	ECKC1H222J	CERAMIC	50V	2.2nF
C2507	ECKC1H561J	CERAMIC	50V	560pF
C2601	ECKC1H103JB	CERAMIC	50V	10nF
C2602	ECEA1CU102	ELECTROLYTIC	16V	1000μF
C2603	ECEA1CN100	ELECTROLYTIC	16V	10μF
C2607	ECEA1CU100	ELECTROLYTIC	16V	10μF
C2608	ECQV1H104JZ	PLASTIC FILM	50V	100nF
C2609	ECEA1EN4R7	ELECTROLYTIC	25V	4.7μF
C2612	ECEA1CN100	ELECTROLYTIC	16V	10μF

DIODES

D251	MA165TA5	DIODE
D252	MA4062	DIODE
D264	MA165TA5	DIODE
D305	MA165TA5	DIODE
D306	MA165TA5	DIODE
D307	MA165TA5	DIODE
D309	MA165TA5	DIODE
D310	MA165TA5	DIODE
D313	MA27TA5	DIODE
D314	MA4030	DIODE
D315	MA165TA5	DIODE
D316	MA165TA5	DIODE
D317	MA165TA5	DIODE

Ref No.	Part No.	Description
D330	MA700TA5	DIODE
D331	MA700TA5	DIODE
D332	MA165TA5	DIODE
D333	MA165TA5	DIODE
D335	MA165TA5	DIODE
D336	MA700TA5	DIODE
D355	MA165TA5	DIODE
D356	MA165TA5	DIODE
D357	MA165TA5	DIODE
D358	MA165TA5	DIODE
D385	MA165TA5	DIODE
D390	MA165TA5	DIODE
D401	MA29TA5	DIODE
D451	ERA15-02V3	DIODE
D456	MA4300	DIODE
D508	MA4051	DIODE
D512	MA165TA5	DIODE
D514	MA165TA5	DIODE
D515	MA4360	DIODE
D541 ⚠	MA1360MTA	DIODE
D543	MA165TA5	DIODE
D544	MA171TA5	DIODE
D551	ERA22-02V3	DIODE
D552	MA167TA5	DIODE
D553	ERA22-02V3	DIODE
D558	MA700TA5	DIODE
D559	MA165TA5	DIODE
D651	MA165TA5	DIODE
D801	D4SB80Z	DIODE BRIDGE
D805	232266296009	DIODE
D807	EU02	DIODE
D809	EU02	DIODE
D810	TVSB2808D	DIODE
D811 ⚠	ON3105.TV	OPTO ISOLATOR
D851	TVSC2408M	DIODE
D852	EU02	DIODE
D853	ERD32-02L7	DIODE
D854	TVSSR2KL	DIODE
D1113	MA165TA5	DIODE
D1115	MA165TA5	DIODE
D1116	MA165TA5	DIODE
D1117	MA165TA5	DIODE
D1121	LN81RPHL	DIODE
D1122	TVSS1W3S10	DIODE
D1123	MA165TA5	DIODE
D1124	MA4051	DIODE
D1125	MA165TA5	DIODE
D1127	MA165TA5	DIODE
D1128	MA165TA5	DIODE
D1129	MA165TA5	DIODE
D1133	MA165TA5	DIODE
D1134	MA165TA5	DIODE
D1136	MA29TA5	DIODE
D1142	MA165TA5	DIODE
D1143	MA165TA5	DIODE
D1144	MA858TA5	DIODE
D1601	PN323BHT	DIODE
D2501	MA165TA5	DIODE
D2502	MA165TA5	DIODE
D2628	MA858TA5	DIODE

INTEGRATED CIRCUITS

IC70	UPC574J	REGULATOR
IC101	TDA4505M-N3	VIF/SIF/SYNC
IC251	AN5265	AUDIO OUTPUT
IC451	TDA3653C	VERTICAL OUTPUT
IC551	L78M12MRB	12V REGULATOR
IC601	TDA3566	CHROMA DECODER
IC651	TDA3590A	SECAM DECODER
IC801 ⚠	STR54041-M	REGULATOR
IC1110	MN15285TEH	MICROPROCESSOR
IC1111	MN12C201T	MEMORY
IC1112	MN1280R	RESET
IC1601	AN5025K	RECEIVER
IC2601	M51320P	TV/AV SWITCH

COILS

L11	TLT082K991R	COIL
L16	TLT082K991R	COIL
L17	TLT082K991R	COIL
L18	TLT082K991K	COIL
L22	TLT047K991R	COIL
L101	TLI151757	COIL
L102	TLI151757	COIL
L103	TLT100K166C	COIL
L104	TLS61353-1	COIL
L106	EXCELDR35V	COIL
L202	TLT047K991R	COIL
L203	TLT220K991R	COIL
L301	TLX330J176C	COIL
L302	EXCELDR35V	COIL
L303	TSC930-4	CHOKE
L351	TLT181K991R	COIL
L352	TLT181K991R	COIL
L353	TLT181K991R	COIL
L451	TLQ082K236T	COIL
L528	TLT082K991R	COIL
L551	ELC07B014	COIL
L552	TLH15773	TRANSFORMER
L553	ELH5L401	COIL
L555	TSC930-4	CHOKE
L556	TLP408C	TRANSFORMER
L602	EIK1EG013B	COIL
L603	TLK158069	COIL
L651	TLK151060	COIL
L655	TLK61008-1	COIL
L656	TLT100K991R	COIL
L657	TLT100K991R	COIL
L801 ⚠	ELF18D650L	FILTER
L802 ⚠	ELF18D650L	FILTER
L803	TSC930-4	CHOKE
L806	EXCELDR35V	COIL
L852	TSC930-4	CHOKE
L853	TLQ056K236B	COIL
L854	EXCELDR35V	COIL
L855	EXCELDR35V	COIL
L1111	ELEXT100KA	COIL
L1112	ELEXT100KA	COIL
L1113	ELEXT100KA	COIL
L1114	ELEXT100KA	COIL
L1115	ELEXT100KA	COIL
L1116	ELEXT100KA	COIL
L1117	ELEXT100KA	COIL
L1118	ELEXT100KA	COIL
L1119	ELEXT100KA	COIL
L1120	ELEXT100KA	COIL
L1121	ELEXT100KA	COIL
L1122	ELEXT100KA	COIL
L1123	ELEXT100KA	COIL
L1124	ELEXT100KA	COIL
L1126	ELEXT100KA	COIL
L1127	ELEXT100KA	COIL
L1128	ELEXT100KA	COIL
L1129	ELEXT100KA	COIL
L1130	ELEXT100KA	COIL
L1131	ELEXT100KA	COIL
L1132	ELKTH150GA	COIL
L1133	ELKTH150GA	COIL
L1134	ELKTH150GA	COIL
L1135	ELEXT100KA	COIL
L1136	TSC930-4	CHOKE
L1137	TLT047K991R	COIL
L1138	TLT068K991R	COIL
L1139	TLT010K991R	COIL
L1140	ELEXT100KA	COIL
L1141	ELEXT100KA	COIL
L1142	ELEXT100KA	COIL
L1143	ELEXT100KA	COIL
L1144	ELEXT100KA	COIL
L1145	ELEXT100KA	COIL
L1146	TLT010K991R	COIL
L1147	ELEXT100KA	COIL
L1148	ELEXT100KA	COIL
L1149	TLT100K991R	COIL
L1150	ELEXT100KA	COIL
L1151	ELEXT100KA	COIL
L1152	TLT100K991R	COIL
L1153	TLT100K991R	COIL
L1154	TLT100K991R	COIL
L2501	TLT056K991R	COIL
LC601	TLK153162E	COIL

Ref No.	Part No.	Description

TRANSISTORS

Q101	2SC1685-TA	TRANSISTOR
Q104	2SC1215TA	TRANSISTOR
Q251	2SA564-S	TRANSISTOR
Q303	2SC1215TA	TRANSISTOR
Q304	2SC1685-TA	TRANSISTOR
Q306	UN4211TA	TRANSISTOR
Q307	2SC1215TA	TRANSISTOR
Q308	2SC1685-TA	TRANSISTOR
Q309	2SC1685-TA	TRANSISTOR
Q310	2SC1685-TA	TRANSISTOR
Q311	2SC1685-TA	TRANSISTOR
Q351	2SC2923-RL	TRANSISTOR
Q352	2SC2923-RL	TRANSISTOR
Q353	2SC2923-RL	TRANSISTOR
Q356	2SA719-TA	TRANSISTOR
Q390	2SC1685-TA	TRANSISTOR
Q501	2SD836-AL	TRANSISTOR
Q507	UN4111TA	TRANSISTOR
Q541 ⚠	2SA564-S	TRANSISTOR
Q542 ⚠	2SC1685-TA	TRANSISTOR
Q551	2SD1439-RL	TRANSISTOR
Q568	2SC1685-TA	TRANSISTOR
Q569	2SC1685-TA	TRANSISTOR
Q651	2SC1685-TA	TRANSISTOR
Q652	2SA564-S	TRANSISTOR
Q655	2SC1685-TA	TRANSISTOR
Q801 ⚠	2SD965-R	TRANSISTOR
Q802 ⚠	2SD965-R	TRANSISTOR
Q1110	2SC1688-TA	TRANSISTOR
Q1115	2SC1685-TA	TRANSISTOR
Q1116	2SC1685-TA	TRANSISTOR
Q1117	UN4111TA	TRANSISTOR
Q1118	UN4111TA	TRANSISTOR
Q1119	UN4111TA	TRANSISTOR
Q1120	UN4211TA	TRANSISTOR
Q1121	2SC1685-TA	TRANSISTOR
Q1122	2SC1317-TA	TRANSISTOR
Q1123	2SC1685-TA	TRANSISTOR
Q1124	2SC1685-TA	TRANSISTOR
Q1125	UN4211TA	TRANSISTOR
Q1126	UN4211TA	TRANSISTOR
Q1127	2SC1685-TA	TRANSISTOR
Q1128	UN4213TA	TRANSISTOR
Q1129	UN4211TA	TRANSISTOR
Q1130	2SC1685-TA	TRANSISTOR
Q1134	2SC1685-TA	TRANSISTOR
Q2501	2SC1685-TA	TRANSISTOR
Q2502	2SA564-S	TRANSISTOR
Q2503	2SC1685-TA	TRANSISTOR
Q2504	2SC1685-TA	TRANSISTOR

RESISTORS

R14	ERD25TJ185	CARBON 0.25W 5%	1.8MΩ
R30	ERD25TJ153	CARBON 0.25W 5%	15KΩ
R31	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R70	ERG1ANJ153	METAL 1W ⚠ 5%	15KΩ
R102	EVNDXAA00B14	D. AGC	10KΩ
R103	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R104	ERD25TJ272	CARBON 0.25W 5%	2.7KΩ
R106	ERD25TJ471	CARBON 0.25W 5%	470Ω
R107	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R108	ERD25TJ2R2	CARBON 0.25W 5%	2.2Ω
R110	ERD25TJ101	CARBON 0.25W 5%	100Ω
R111	ERD25TJ122	CARBON 0.25W 5%	1.2KΩ
R112	ERD25TJ155	CARBON 0.25W 5%	1.5MΩ
R113	ERD25TJ333	CARBON 0.25W 5%	33KΩ
R115	ERD25TJ472	CARBON 0.25W 5%	4.7KΩ
R116	ERD25TJ391	CARBON 0.25W 5%	390Ω
R119	ERD25TJ684	CARBON 0.25W 5%	680KΩ
R120	ERD25TJ471	CARBON 0.25W 5%	470Ω
R122	ERD25TJ472	CARBON 0.25W 5%	4.7KΩ
R123	ERD25TJ125	CARBON 0.25W 5%	1.2MΩ
R124	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R126	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R127	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R128	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R129	ERD25TJ821	CARBON 0.25W 5%	820Ω
R130	ERD25TJ330	CARBON 0.25W 5%	33Ω

Ref No.	Part No.	Description
R201	ERD25TJ471	CARBON 0.25W 5% 470Ω
R203	ERD25TJ472	CARBON 0.25W 5% 4.7KΩ
R206	ERD25TJ222	CARBON 0.25W 5% 2.2KΩ
R207	EVNDXAA00B53	SIF ADJUST 5KΩ
R251	ERG1ANJ331	METAL 1W ⚠ 5% 330Ω
R252	ERD25TJ101	CARBON 0.25W 5% 100Ω
R253	ERD25TJ221	CARBON 0.25W 5% 220Ω
R254	ERD25TJ471	CARBON 0.25W 5% 470Ω
R256	ERD25TJ332	CARBON 0.25W 5% 3.3KΩ
R257	ERD25TJ3R3	CARBON 0.25W 5% 3.3Ω
R258	ERQ1CJP120	FILM 1W 5% ⚠ 12Ω
R259	ERD25TJ472	CARBON 0.25W 5% 4.7KΩ
R260	ERD25TJ332	CARBON 0.25W 5% 3.3KΩ
R261	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R301	ERD25TJ152	CARBON 0.25W 5% 1.5KΩ
R302	ERD25TJ561	CARBON 0.25W 5% 560Ω
R303	ERD25TJ272	CARBON 0.25W 5% 2.7KΩ
R305	ERD25TJ152	CARBON 0.25W 5% 1.5KΩ
R306	ERD25TJ122	CARBON 0.25W 5% 1.2KΩ
R307	ERD25TJ561	CARBON 0.25W 5% 560Ω
R308	ERD25TJ822	CARBON 0.25W 5% 8.2KΩ
R309	ERD25TJ822	CARBON 0.25W 5% 8.2KΩ
R310	ERD25TJ182	CARBON 0.25W 5% 1.8KΩ
R311	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R313	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R314	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R315	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R316	ERD25TJ471	CARBON 0.25W 5% 470Ω
R317	EVNDXAA00B54	SUB CONTRAST 50KΩ
R318	ERD25TJ274	CARBON 0.25W 5% 270KΩ
R319	ERD25TJ563	CARBON 0.25W 5% 56KΩ
R320	EVUE3AM30A13	PICTURE CONTROL 1KΩ
R321	EVNDXAA00B24	SUB BRIGHTNESS 20KΩ
R322	ERD25TJ563	CARBON 0.25W 5% 56KΩ
R324	ERD25TJ393	CARBON 0.25W 5% 39KΩ
R325	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R326	ERD25TJ101	CARBON 0.25W 5% 100Ω
R327	ERD25TJ121	CARBON 0.25W 5% 120Ω
R328	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R329	ERD25TJ682	CARBON 0.25W 5% 6.8KΩ
R330	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R331	EVUE2AM30B14	CONTRAST 10KΩ
R332	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R333	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R334	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R335	ERDS1TJ471	CARBON 0.5W 5% 470Ω
R336	ERD25TJ273	CARBON 0.25W 5% 27KΩ
R337	ERD25TJ104	CARBON 0.25W 5% 100KΩ
R338	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R339	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R340	ERD25TJ331	CARBON 0.25W 5% 330Ω
R345	ERO25CKF7151	METAL 0.25W 5% ⚠ 7.15KΩ
R346	ERO25CKF3001	METAL 0.25W 5% ⚠ 3.00KΩ
R347	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R349	ERD25TJ123	CARBON 0.25W 5% 12KΩ
R351	ERG2ANJ822	METAL 2W ⚠ 5% 8.2KΩ
R352	ERG2ANJ822	METAL 2W ⚠ 5% 8.2KΩ
R353	ERG2ANJ822	METAL 2W ⚠ 5% 8.2KΩ
R354	ERD25TJ181	CARBON 0.25W 5% 180Ω
R355	ERD25TJ271	CARBON 0.25W 5% 270Ω
R356	ERD25TJ181	CARBON 0.25W 5% 180Ω
R357	EVN65UA00B22	GREEN DRIVE 200Ω
R358	EVN65UA00B22	RED DRIVE 200Ω
R359	ERD25TJ471	CARBON 0.25W 5% 470Ω
R360	ERD25TJ471	CARBON 0.25W 5% 470Ω
R361	ERD25TJ471	CARBON 0.25W 5% 470Ω
R362	EVN65UA00B53	GREEN CUTOFF 5KΩ
R364	EVN65UA00B53	RED CUTOFF 5KΩ
R365	ERDS1FJ152	CARBON 0.5W 5% ⚠ 1.5KΩ
R366	ERDS1TJ152	CARBON 0.5W 5% 1.5KΩ
R367	ERDS1TJ152	CARBON 0.5W 5% 1.5KΩ
R369	EVN65UA00B53	BLUE CUTOFF 5KΩ
R374	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R376	ERD25TJ103	CARBON 0.25W 5% 10KΩ
R377	ERD25TJ391	CARBON 0.25W 5% 390Ω
R380	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R381	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R382	ERD25TJ822	CARBON 0.25W 5% 8.2KΩ
R383	ERD25TJ181	CARBON 0.25W 5% 180Ω
R384	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ
R385	ERD25TJ153	CARBON 0.25W 5% 15KΩ
R387	ERD25TJ102	CARBON 0.25W 5% 1.0KΩ

Part No.	Description	
ERD25TJ274	CARBON 0.25W 5%	270KΩ
ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
ERD25TJ101	CARBON 0.25W 5%	100Ω
ERO25CKF8203	METAL 0.25W 5% ⚠	820KΩ
ERD25TJ123	CARBON 0.25W 5%	12KΩ
ERD25TJ105	CARBON 0.25W 5%	1.0MΩ
ERD25TJ395	CARBON 0.25W 5%	3.9MΩ
ERD25TJ683	CARBON 0.25W 5%	68KΩ
ERD25TJ225	CARBON 0.25W 5%	2.2MΩ
ERD25TJ182	CARBON 0.25W 5%	1.8KΩ
ERD25TJ470	CARBON 0.25W 5%	47Ω
ERD25TJ272	CARBON 0.25W 5%	2.7KΩ
EVND4AA00B22	VERTICAL HEIGHT	200Ω
ERDS1TJ132	CARBON 0.5W 5%	1.3KΩ
ERDS1TJ2R2	CARBON 0.5W 5%	2.2Ω
ERD25TJ561	CARBON 0.25W 5%	560Ω
ERD25TJ392	CARBON 0.25W 5%	3.9KΩ
ERD25TJ331	CARBON 0.25W 5%	330Ω
ERD25TJ223	CARBON 0.25W 5%	22KΩ
ERD25TJ332	CARBON 0.25W 5%	3.3KΩ
ERD25TJ331	CARBON 0.25W 5%	330Ω
TSF19631	FUSIBLE LINK ⚠	
ERD25TJ132	CARBON 0.25W 5%	1.3KΩ
ERD25TJ561	CARBON 0.25W 5%	560Ω
ERD25TJ124	CARBON 0.25W 5%	120KΩ
ERO25CKF3002	METAL 0.25W 5% ⚠	30.0KΩ
EVNDXAA00B14	HORIZONTAL FREQUENCY	10KΩ
ERD25TJ123	CARBON 0.25W 5%	12KΩ
ERD25TJ682	CARBON 0.25W 5%	6.8KΩ
ERD25TJ272	CARBON 0.25W 5%	2.7KΩ
ERD25TJ333	CARBON 0.25W 5%	33KΩ
ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
EVNDXAA00B23	HORIZONTAL CENTRE	2KΩ
ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
ERD25TJ471	CARBON 0.25W 5%	470Ω
ERD25TJ183	CARBON 0.25W 5%	18KΩ
ERD25TJ221	CARBON 0.25W 5%	220Ω
ERD25TJ335	CARBON 0.25W 5%	3.3MΩ
ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
ERG2ANJ391	METAL 2W ⚠ 5%	390Ω
ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
ERD25TJ474	CARBON 0.25W 5%	470KΩ
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ823	CARBON 0.25W 5%	82KΩ
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ183	CARBON 0.25W 5%	18KΩ
ERF7ZK8R2	WOUND 7W 10% ⚠	8.2Ω
ERQ12HJ1R2	FILM 0.5W 5% ⚠	1.2Ω
ERQ14AJ151	FILM 0.25W 5% ⚠	150Ω
TSF19102	FUSIBLE LINK ⚠	
ERQ1CJP4R7	FILM 1W 5% ⚠	4.7Ω
ERQ2CJP180	FILM 2W 5% ⚠	18Ω
ERD25TJ274	CARBON 0.25W 5%	270KΩ
ERDS1TJ1R5	CARBON 0.5W 5%	1.5Ω
ERD25TJ153	CARBON 0.25W 5%	15KΩ
ERD25TJ124	CARBON 0.25W 5%	120KΩ
ERDS1TJ1R8	CARBON 0.5W 5%	1.8Ω
ERQ1CJP681	FILM 1W 5% ⚠	680Ω
ERD25TJ270	CARBON 0.25W 5%	27Ω
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ333	CARBON 0.25W 5%	33KΩ
ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
ERD25TJ123	CARBON 0.25W 5%	12KΩ
EVNDXAA00B54	SUB COLOUR	50KΩ
ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
ERD25TJ122	CARBON 0.25W 5%	1.2KΩ
EVND4AA00B13	DELAY LINE ADJUST	1KΩ
ERD25TJ391	CARBON 0.25W 5%	390Ω
ERD25TJ471	CARBON 0.25W 5%	470Ω
ERO25CKF1002	METAL 0.25W 5% ⚠	10.0KΩ
ERO25CKF1002	METAL 0.25W 5% ⚠	10.0KΩ
ERD25TJ101	CARBON 0.25W 5%	100Ω
ERD25TJ101	CARBON 0.25W 5%	100Ω
ERD25TJ101	CARBON 0.25W 5%	100Ω
ERD25TJ103	CARBON 0.25W 5%	10KΩ
ERD25TJ682	CARBON 0.25W 5%	6.8KΩ
ERD25TJ513	CARBON 0.25W 5%	51KΩ
ERD25TJ152	CARBON 0.25W 5%	1.5KΩ

Ref No.	Part No.	Description	
R655	ERD25TJ152	CARBON 0.25W 5%	1.5KΩ
R656	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R657	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R658	EVND4AA00B13	CHROMA IDENTIFICATION	1KΩ
R661	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R662	ERD25TJ471	CARBON 0.25W 5%	470Ω
R663	ERD25TJ101	CARBON 0.25W 5%	100Ω
R664	ERD25TJ331	CARBON 0.25W 5%	330Ω
R665	ERD25TJ182	CARBON 0.25W 5%	1.8KΩ
R672	ERD25TJ272	CARBON 0.25W 5%	2.7KΩ
R673	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R674	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R675	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R680	ERD25TJ221	CARBON 0.25W 5%	220Ω
R681	ERD25TJ182	CARBON 0.25W 5%	1.8KΩ
R802	ERF5ZK4R7	WOUND 5W 10% ⚠	4.7Ω
R803	ERDS1TJ564	CARBON 0.5W 5%	560KΩ
R804	ERDS1TJ333	CARBON 0.5W 5%	33KΩ
R805	ERDS1TJ333	CARBON 0.5W 5%	33KΩ
R810	ERDS1TJ3R9	CARBON 0.5W 5%	3.9Ω
R811	ERW12PKR27	WOUND 0.5W 5% ⚠	0.27Ω
R812	ERG2ANJ470	METAL 2W ⚠ 5%	47Ω
R813	ERG1ANJ683	METAL 1W ⚠ 5%	68KΩ
R814	ERD75TAJ825	CARBON 0.75W 5% ⚠	8.2MΩ
R815	ERQ14AJ5R6	FILM 0.25W 5% ⚠	5.6Ω
R816	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R817	ERDS1TJ683	CARBON 0.5W 5%	68KΩ
R818	ERD25TJ204	CARBON 0.25W 5%	200KΩ
R820	ERDS1TJ473	CARBON 0.5W 5%	47KΩ
R821	ERDS1TJ473	CARBON 0.5W 5%	47KΩ
R822	ERDS1TJ683	CARBON 0.5W 5%	68KΩ
R851	ERQ12HJ2R2	FILM 0.5W 5% ⚠	2.2Ω
R852	ERQ1CKPR82	FILM 1W 5% ⚠	00.82Ω
R1108	ERD25TJ221	CARBON 0.25W 5%	220Ω
R1109	TSF19631	FUSIBLE LINK ⚠	
R1110	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1112	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1116	ERD25TJ223	CARBON 0.25W 5%	22KΩ
R1117	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1119	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R1120	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R1121	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R1122	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R1123	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R1124	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1125	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1126	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1127	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1128	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1129	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1130	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1131	ERD25TJ392	CARBON 0.25W 5%	3.9KΩ
R1132	ERD25TJ203	CARBON 0.25W 5%	20KΩ
R1133	ERD25TJ622	CARBON 0.25W 5%	6.2KΩ
R1134	ERD25TJ332	CARBON 0.25W 5%	3.3KΩ
R1135	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1136	ERD25TJ203	CARBON 0.25W 5%	20KΩ
R1137	ERD25TJ622	CARBON 0.25W 5%	6.2KΩ
R1138	ERD25TJ332	CARBON 0.25W 5%	3.3KΩ
R1139	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1140	ERD25TJ273	CARBON 0.25W 5%	27KΩ
R1141	ERD25TJ332	CARBON 0.25W 5%	3.3KΩ
R1142	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1143	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1144	ERD25TJ203	CARBON 0.25W 5%	20KΩ
R1145	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1146	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1148	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1150	ERD25TJ153	CARBON 0.25W 5%	15KΩ
R1152	ERD25TJ221	CARBON 0.25W 5%	220Ω
R1153	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R1154	ERD25TJ472	CARBON 0.25W 5%	4.7KΩ
R1155	ERD25TJ183	CARBON 0.25W 5%	18KΩ
R1156	ERD25TJ123	CARBON 0.25W 5%	12KΩ
R1157	ERD25TJ224	CARBON 0.25W 5%	220KΩ
R1158	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1159	ERD25TJ681	CARBON 0.25W 5%	680Ω
R1160	ERD25TJ123	CARBON 0.25W 5%	12KΩ
R1161	ERD25TJ563	CARBON 0.25W 5%	56KΩ
R1162	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1163	ERD25TJ223	CARBON 0.25W 5%	22KΩ
R1164	ERD25TJ103	CARBON 0.25W 5%	10KΩ

Ref No.	Part No.	Description	
R1165	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R1166	ERD25TJ153	CARBON 0.25W 5%	15KΩ
R1167	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1168	ERD25TJ472	CARBON 0.25W 5%	4.7KΩ
R1169	ERD25TJ123	CARBON 0.25W 5%	12KΩ
R1170	ERD25TJ183	CARBON 0.25W 5%	18KΩ
R1171	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1172	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1173	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R1174	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1175	ERD25TJ221	CARBON 0.25W 5%	220Ω
R1176	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1177	ERD25TJ153	CARBON 0.25W 5%	15KΩ
R1178	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1179	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1180	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1183	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R1184	ERD25TJ151	CARBON 0.25W 5%	150Ω
R1185	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R1186	ERDS1TJ561	CARBON 0.5W 5%	560Ω
R1187	ERD25TJ562	CARBON 0.25W 5%	5.6KΩ
R1188	ERD25TJ203	CARBON 0.25W 5%	20KΩ
R1189	ERD25TJ622	CARBON 0.25W 5%	6.2KΩ
R1190	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R1191	ERD25TJ332	CARBON 0.25W 5%	3.3KΩ
R1192	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1194	ERD25TJ472	CARBON 0.25W 5%	4.7KΩ
R1195	ERD25TJ512	CARBON 0.25W 5%	5.1KΩ
R1196	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1197	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1198	ERD25TJ822	CARBON 0.25W 5%	8.2KΩ
R1199	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1201	ERD25TJ152	CARBON 0.25W 5%	1.5KΩ
R1202	ERD25TJ182	CARBON 0.25W 5%	1.8KΩ
R1203	ERD25TJ152	CARBON 0.25W 5%	1.5KΩ
R1206	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1207	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ
R1214	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1215	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1216	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1217	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R1218	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1219	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1220	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R1221	ERD25TJ683	CARBON 0.25W 5%	68KΩ
R1601	ERD25TJ183	CARBON 0.25W 5%	18KΩ
R1602	ERD25TJ274	CARBON 0.25W 5%	270KΩ
R1603	EVND4AA00B15	I.R. RECEIVER ADJUST	100KΩ
R1604	ERD25TJ4R7	CARBON 0.25W 5%	4.7Ω
R1605	ERD25TJ101	CARBON 0.25W 5%	100Ω
R1606	ERD25TJ101	CARBON 0.25W 5%	100Ω
R2501	ERD25TJ101	CARBON 0.25W 5%	100Ω
R2502	ERD25TJ222	CARBON 0.25W 5%	2.2KΩ
R2503	ERD25TJ101	CARBON 0.25W 5%	100Ω
R2504	ERD25TJ750	CARBON 0.25W 5%	75Ω
R2505	ERD25TJ681	CARBON 0.25W 5%	680Ω

Ref No.	Part No.	Description	
R2506	ERD25TJ680	CARBON 0.25W 5%	68Ω
R2507	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R2508	ERD25TJ750	CARBON 0.25W 5%	75Ω
R2509	ERD25TJ180	CARBON 0.25W 5%	18Ω
R2510	ERD25TJ560	CARBON 0.25W 5%	56Ω
R2511	ERD25TJ180	CARBON 0.25W 5%	18Ω
R2512	ERD25TJ560	CARBON 0.25W 5%	56Ω
R2513	ERD25TJ180	CARBON 0.25W 5%	18Ω
R2514	ERD25TJ560	CARBON 0.25W 5%	56Ω
R2515	ERD25TJ473	CARBON 0.25W 5%	47KΩ
R2516	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R2517	ERD25TJ221	CARBON 0.25W 5%	220Ω
R2518	ERD25TJ101	CARBON 0.25W 5%	100Ω
R2519	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R2520	ERD25TJ104	CARBON 0.25W 5%	100KΩ
R2521	ERD25TJ473	CARBON 0.25W 5%	47KΩ
R2522	ERD25TJ103	CARBON 0.25W 5%	10KΩ
R2601	ERD25TJ8R2	CARBON 0.25W 5%	8.2Ω
R2625	ERD25TJ102	CARBON 0.25W 5%	1.0KΩ

SWITCHES

S301	EVQR1AL13	SWITCH
S401	EVQR4AL13	SWITCH
S1110	EVQQBH12T	SWITCH
S1111	EVQQBH12T	SWITCH
S1112	EVQQBH12T	SWITCH
S1113	EVQQBH12T	SWITCH
S1114	EVQQBH12G	SWITCH
S1115	EVQQBH12G	SWITCH
S1116	EVQQBH12T	SWITCH
S1117	EVQQBH12G	SWITCH
S1118	EVQQBH12G	SWITCH
S1119	EVQQBH12G	SWITCH
S1120	EVQQBH12T	SWITCH
S1121	EVQQBH12T	SWITCH
S1122	EVQQBH12T	SWITCH
S1123	EVQQBH12T	SWITCH
S1124	EVQQBH12G	SWITCH

TRANSFORMERS

T201	EIS1EG014B	TRANSFORMER
T202	EIS7ES710B	TRANSFORMER
T531	ETH19Y53AY	TRANSFORMER
T801 ⚠	ETS42K610A1	TRANSFORMER
T802 ⚠	ETP35KE65E	TRANSFORMER

FILTERS

X101	SW174A	FILTER
X201	EFCS5R5MS3	FILTER
X301	EFCA4R43MB3	FILTER
X601	TSS2003-M	CRYSTAL
X1110	TAFCSA2.00MG	FILTER

SVC MNL
SM-TC2195DRS 1 ST
09250376 9100024I 27

SM-90020

Service Manual

Colour Television

Z3-T Chassis

Supplement-1

Date : MAY 1990.

Subject : IC601 TDA3562A / TDA3566.

Applicable model number : TC - 2185DRS

Please use this information together with the service manual for the appropriate model. This change is effective for models produced from January 1990.

Bitte verwenden Sie diese Information gemeinsam mit dem Service Manual des entsprechenden Gerätes.

Panasonic

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SAFETY PRECAUTIONS	2
CONDUCTOR VIEWS	4
SCHEMATIC DIAGRAMS	6
REPLACEMENT PARTS LIST	10

INHALT

SICHERHEITSVORKEHRUNGEN
ANSICHT DER LEITERBAHNEN
SCHALTBILD SCHEMA
ERSATZEILLISTE

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are properly installed.
4. When the receiver is not to be used for a long period of time, unplug the power cord from the AC outlet.
5. Potential, as high as 27.0 kV, is present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not throughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the receiver chassis before handling the tube.
6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the receiver's power switch.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, aerials, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis, the reading must be infinite.

SICHERHEITSVORKEHRUNGEN

ALLGEMEINE RICHTLINIEN

1. Es ist empfehlenswert, einen Trenntransformator in die Stromversorgung zu schalten, bevor Reparaturen an einem Gerät vorgenommen werden, dessen Chassis unter Spannung steht.
2. Bei der Durchführung von Servicearbeiten dürfen die ursprünglichen Kabelanschlüsse nicht vertauscht werden. Dies gilt insbesondere für die Anschlüsse im Hochspannungsteil. Hat sich ein Kurzschluß ereignet, dann sind alle Teile, an denen Spuren von Überhitzung sichtbar sind, auszuwechseln.
3. Nach Beenden der Servicearbeiten ist sicherzustellen, daß alle Sicherheitsvorrichtungen, wie Isolationsstege, Isolationspapiere, Abschirmungen und Isolations - R -C - Glieder wieder richtig eingesetzt sind.
4. Wenn der Fernseher während längerer Zeit nicht in Betrieb gesetzt wird, sollte der Netzstecker aus der Netzsteckdose gezogen werden.
5. Im Betrieb sind Spannungen bis zu 27.0kV in diesem Gerät vorhanden. Die Inbetriebnahme des Fernsehers ohne aufgesetzte Rückwand bringt die Gefahr eines elektrischen Schlages von der Fernseher - Stromversorgung mit sich. Servicearbeiten sollten daher auch nie durch Personen versucht werden, die nicht in vollem Umfang mit den Sicherheitsvorkehrungen beim Umgang mit Hochspannungsgeräten vertraut sind. Vor der Handhabung mit der Bildröhre ist die Anode der Bildrohre immer an dem Empfängerchassis zu entladen.
6. Nach Beenden der Servicearbeiten sind die folgenden Kriechstrom-Prüfungen durchzuführen, um den Kunden vor der Gefahr eines elektrischen Schlages zu schützen.

MESSUNG DES ISOLATIONSWIDERSTANDES IM ABGESCHALTETEN ZUSTAND

1. Den Netsztecker aus der Netzsteckdose ziehen und die beiden Steckerstifte kurzschließen.
2. Den Geräteschalter des Fernsehgerätes einschalten.
3. Mit einem Ohmmeter den Widerstandswert zwischen dem überbrückten Netzkabelstecker und jedem zugänglichen Metallteil am Gehäuse des Fernsehgerätes, wie Schraubenköpfe,Antennen, Achsen der Regler, Griffassungen usw.messen. Wenn ein zugängliches Metallteil eine Rückleitung zum Chassis hat, sollte die Anzeige zwischen 4M ohm und 20M ohm betragen. Wenn ein zugängliches Metallteil keine Rückleitung zum Chassis hat, muß die Anzeige unendlich betragen.

LEAKAGE CURRENT HOT CHECK (See Fig 1)

1. Plug the AC cord directly into the AC outlet. Do not use the isolation transformer for this check.
2. Connect a 2 k ohm, 10W resistor, in series with an exposed metallic part on the receiver and an earth such as water pipe.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1.4 volts RMS. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

HOT CHECK CIRCUIT
SCHALTUNGSAUFBAU FÜR PRUFUNG IM EINGESCHALTETEN ZUSTAND

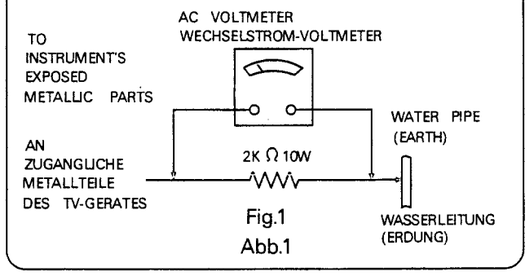


Fig.1
Abb.1

X-RADIATION
WARNING:

1. The potential sources of X-Radiation in TV sets are the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 27.0 kV without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Set the service switch to the SERVICE position.
3. Measure the High Voltage. The meter reading should indicate 25.0 kV, +/- 1.5 kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent an X-Radiation possibility, it is essential to use the specified tube.

SHUT DOWN CIRCUIT TEST
This test must be made as a final check before the set is returned to the customer.

1. With the rear cover removed, supply nominal 220V AC to the set, turn on the power switch.
2. Receive a Phillips pattern.
3. Supply - 40 V DC to TPE7, and confirm that the shut down circuit does not operate.
4. Supply - 60 V DC to TPE7, and confirm that the shut down circuit operates.

MESSUNG DES KRIECHSTROMS IM EINGESCHALTETEN ZUSTAND (Siehe Abb. 1)

1. Den Netzstecker direkt in eine Netsteckdose stecken. Für diese Messung keinen Trenntransformator verwenden.
2. Einen 2k ohm /10 W - Widerstand in Serie mit einem von außen zugänglichen Metallteil am Fernsehgerät und einer guten, Erdung z.B. Wasserleitung, anschließen.
3. Ein Wechselstrom-Voltmeter mit einem Meßbereich von 1000 Ohm/Volt oder größer verwenden, um die Spannung über den Widerstand zu messen.
4. Jedes zugängliche Metallteil prüfen, und an jedem Punkt dies Spannung messen.
5. Den Netztecker umgekehrt in die Steckdose stecken und jede der obigen Messungen wiederholen
6. Die Spannung darf an keinem der Punkte 1.4V eff. überschreiten. Wird dieser Wert nicht eingehalten, besteht die Gefahr eines elektrischen Schlages, und das Fernsehgerät sollte daher repariert und nachgeprüft werden, bevor es an den Kunden zurückgegeben wird.

RÖNTGENSTRAHLUNG

ACHTUNG:

1. Potentielle Quellen von Röntgenstrahlung in Fernsehgeräten sind das Hochspannungsteil und die Bildröhre.
2. Bei Verwendung eines Bildröhren-Prüfgerätes für den Service ist sicherzustellen, daß es für die Belastung von 27.0 kV geeignet ist, ohne daß eine Röntgenstrahlung verursacht wird.

ANMERKUNG: Es ist wichtig , daß ein präzises, regelmäßig geprüftes Voltmeter verwendet wird.

1. Helligkeit auf Minimum stellen.
2. Den Service-Schalter in die 'SERVICE' - Position stellen.
3. Die Hochspannung messen. Die Anzeige des Instrumentes sollte 25.0 kV +/- 1,5 betragen. Falls die Anzeige diese Toleranzgrenzen überschreitet, ist die sofortige Behebung nötig, um die Möglichkeit vorzeitigen Komponentenausfalls zu verhüten.
4. Um die Möglichkeit von Röntgenstrahlung zu begrenzen, ist es wichtig, daß nur die vorgeschriebene Bildröhre verwendet wird.

TEST KURZSCHLLUSS-SICHERHEITSSCHALTUNG

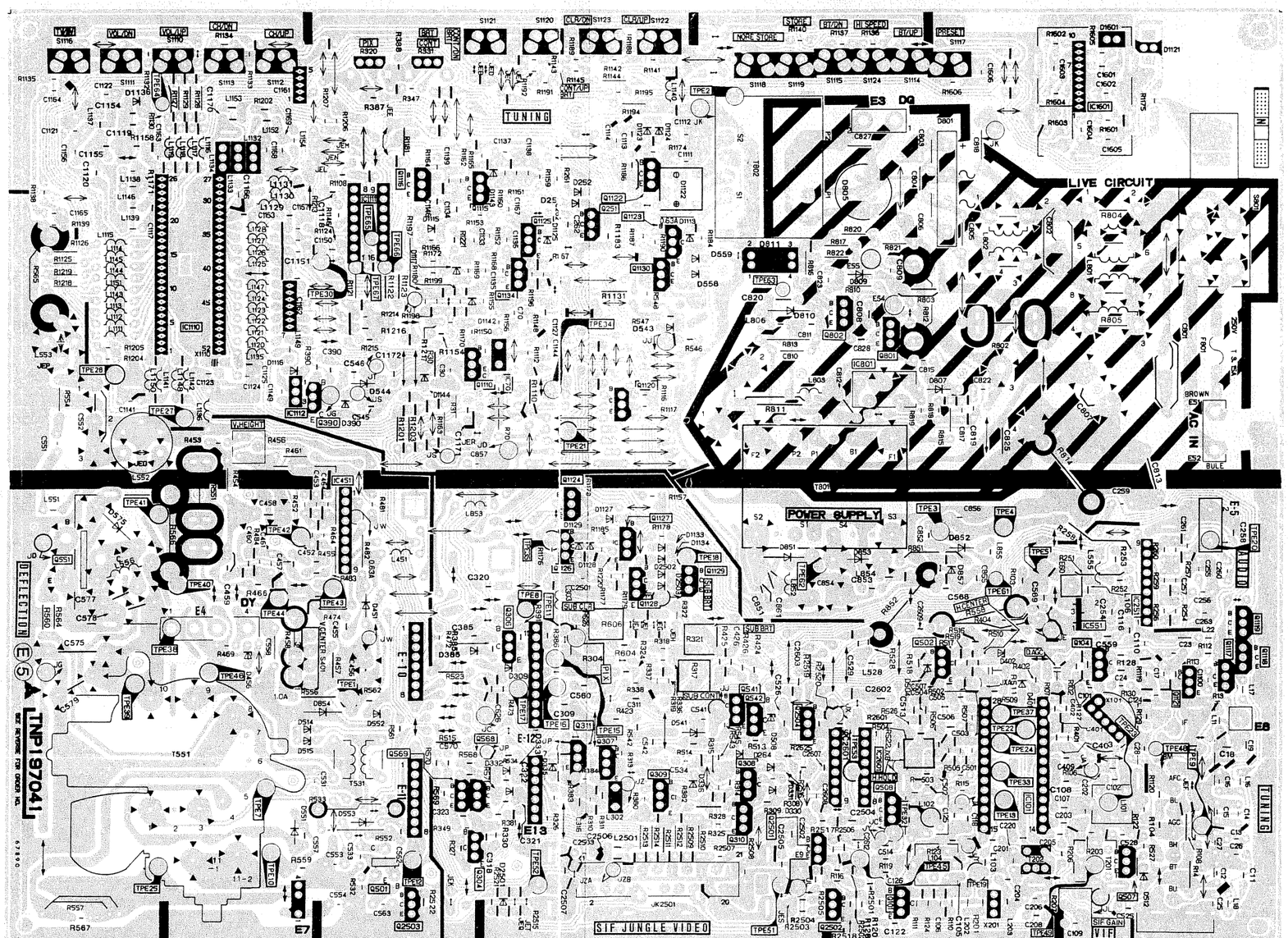
Dieser Test muß als letzte Prüfung vor der Rückgabe des Gerätes an den Kunden durchgeührt werden.

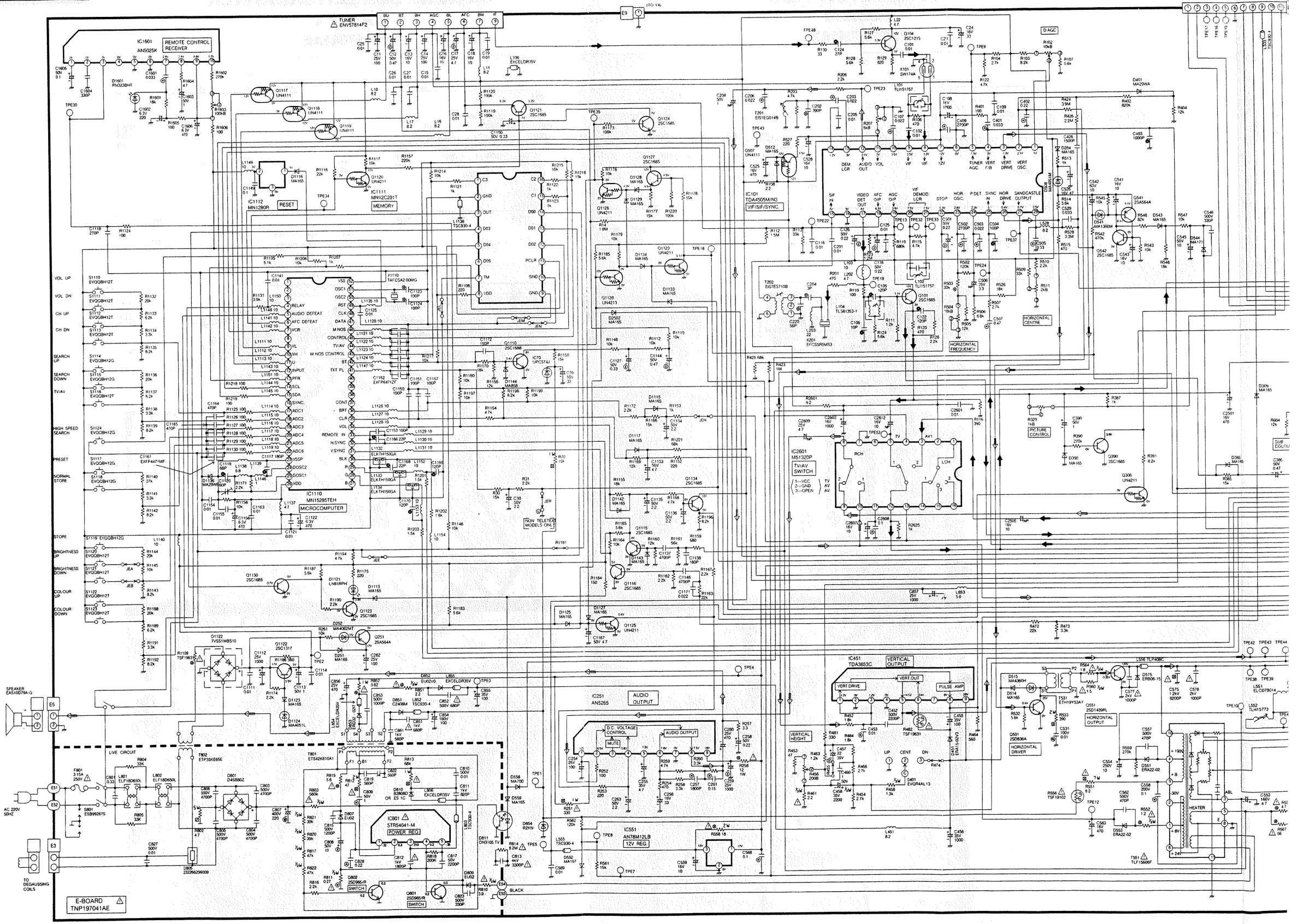
1. Bei abgenommener Rückwand ist dem Gerät 220V Nennspannung zuzuführen, und der Geräteschalter einzuschalten.
2. Ein Phillips-Muster empfangen.
3. Gleichspannung von - 40V an TPE7 einspeisen und sicherstellen, daß die Kurzschluß- Sicherheitsschaltung nicht anspricht.
4. Gleichspannung von - 60V an TPE7 einspeisen und sich vergewissern, daß die Kurzschluß- Sicherheitsschaltung jetzt anspricht.

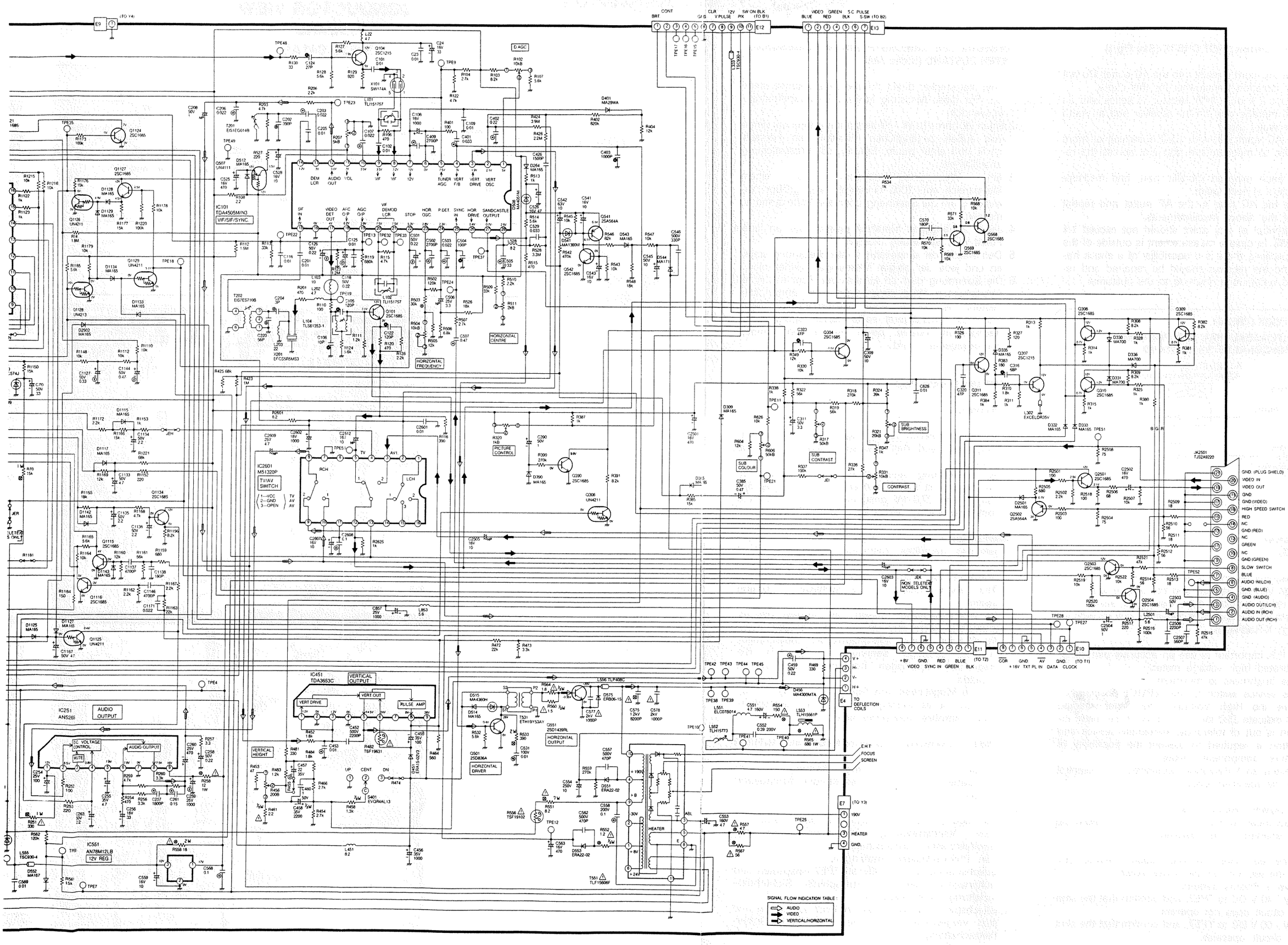
CONDUCTOR VIEW
E-BOARD
TNP197041AE

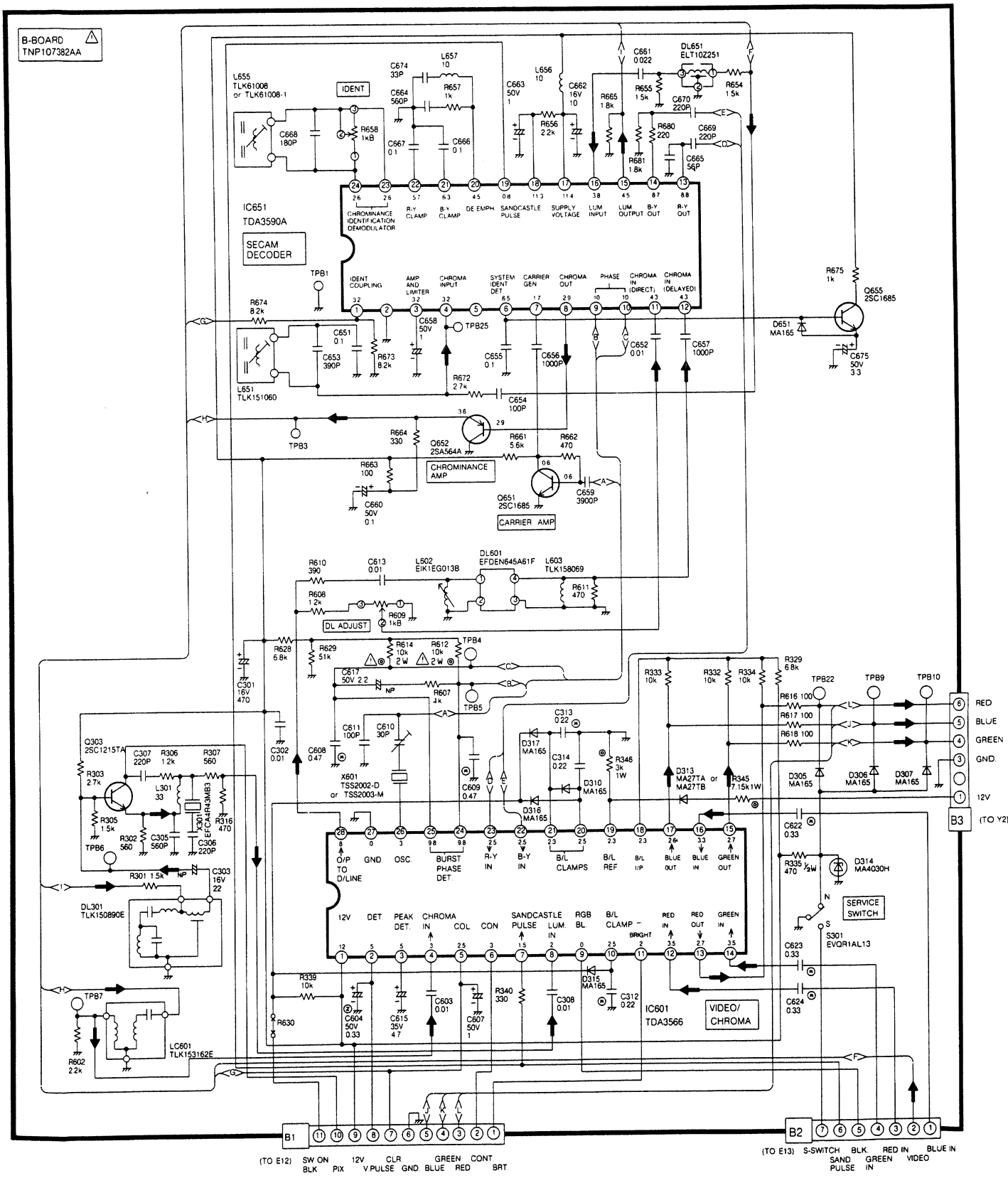
ANSICHT DER LEITERBAHNEN
PLATINE E
TNP197041AE

I.C.	IC1110 IC1112 IC1111 IC451 IC70 IC2601 IC801 IC1601 IC101 IC551 IC251
TRANSISTOR	Q551 Q569 Q1116 Q568 Q1110 Q1125 Q1124 Q1115 Q1134 Q1126 Q390 Q501 Q2503 Q304 Q306 Q311 Q307 Q1122 Q1120 Q1123 Q1127 Q1130 Q1128 Q1129 Q308 Q541 Q542 Q802 Q801 Q2501 Q310 Q2504 Q2502 Q309 Q101 Q104 Q507 Q1121 Q1117 Q1119 Q1118
DIODE	D1136 D1116 D551 D854 D514 D515 D554 D456 D451 D552 D553 D390 D1115 D1144 D1143 D1142 D309 D333 D385 D332 D1117 D1125 D335 D1129 D1128 D252 D251 D1127 D1123 D1113 D1133 D1134 D2502 D1124 D543 D336 D541 D811 D810 D851 D508 D330 D331 D809 D853 D805 D264 D558 D559 D1122 D801 D807 D852 D401 D1601 D1121 D512
TEST POINT	TPE25 TPE28 TPE27 TPE40 TPE41 TPE39 TPE38 TPE7 TPE10 TPE1 TPE42 TPE43 TPE11 TPE17 TPE15 TPE8 TPE16 TPE21 TPE52 TPE18 TPE2 TPE51 TPE53 TPE3 TPE4 TPE5 TPE13 TPE22 TPE33 TPE37 TPE24 TPE23 TPE48 TPE9 TPE20




TUNER
ENV57814F2
IC1601
AN5025K
REMOTE CONTROL RECEIVER
IC1112
MN1280R
RESET
IC1111
MN12C201T
MEMORY
IC1110
MN15285TEH
MICROCOMPUTER
IC101
TDA4505M/N3
VIF/SIF/SYNC.
IC2601
M51320P
TV/AV SWITCH
IC451
TDA3653C
VERTICAL OUTPUT
IC251
AN5265
AUDIO OUTPUT
IC801
STR54041-M
POWER REG
IC551
AN78M12LB
12V REG.
D'AGC
HORIZONTAL CENTRE
HORIZONTAL FREQUENCY
PICTURE CONTROL
SUB COLOUR
HORIZONTAL OUTPUT
HORIZONTAL DRIVER
VERTICAL HEIGHT
NON TELETEXT MODELS ONLY
LIVE CIRCUIT
E-BOARD
TNP197041AE
AC 220V 50HZ
TO DEGAUSSING COILS
SPEAKER
VOL UP
VOL DN
CH UP
CH DN
SEARCH UP
SEARCH DOWN
TV/AV
HIGH SPEED SEARCH
PRESET
NORMAL STORE
STORE
BRIGHTNESS UP
BRIGHTNESS DOWN
COLOUR UP
COLOUR DOWN


IC101
TDA4505M/N3
VIF/SIF/SYNC.
IC2601
M51320P
TV/AV SWITCH
IC451
TDA3653C
VERTICAL OUTPUT
IC251
AN5265
AUDIO OUTPUT
IC551
AN78M12LB
12V REG.
HORIZONTAL CENTRE
HORIZONTAL FREQUENCY
PICTURE CONTROL
SUB BRIGHTNESS
SUB CONTRAST
SUB COLOUR
CONTRAST
HORIZONTAL DRIVER
HORIZONTAL OUTPUT
VERTICAL HEIGHT
SIGNAL FLOW INDICATION TABLE :
AUDIO
VIDEO
VERTICAL/HORIZONTAL
GND. (PLUG SHIELD)
VIDEO IN
VIDEO OUT
GND
GND (VIDEO)
HIGH SPEED SWITCH
RED
NC
GND (RED)
NC
GREEN
NC
GND (GREEN)
SLOW SWITCH
BLUE
AUDIO IN(LCH)
GND. (BLUE)
GND (AUDIO)
AUDIO OUT(LCH)
AUDIO IN (RCH)
AUDIO OUT (RCH)
TO DEFLECTION COILS
E.H.T
FOCUS
SCREEN
(TO Y3)
190V
HEATER
GND.


B-BOARD
TNP107382AA
IC651
TDA3590A
SECAM DECODER
IDENT
CHROMINANCE AMP
CARRIER AMP
DL ADJUST
IC601
TDA3566
VIDEO/ CHROMA
SERVICE SWITCH
RED
BLUE
GREEN
GND.
12V
(TO Y2)
(TO E12)
(TO E13)
S-SWITCH
BLK. SAND
RED IN
GREEN IN
BLUE IN
VIDEO

REPLACEMENT PARTS LIST — ERSATZTEILLISTE

GENERAL INFORMATION :

Please note the following additions and corrections to the original schematic diagrams and parts list.

ALLGEMEINE INFORMATION :

Bitte fügen Sie die folgenden Ergänzungen und Korrekturen den entsprechenden Schaltbildern und Ersatzteillisten bei.

IMPORTANT NOTE :

In the event of failure of IC601, it **MUST** be replaced with a part of the same number.

WICHTIGER HINWEIS :

Im Fehlerfall von IC601, **MUSS** es gegen ein IC mit der gleichen Typenbezeichnung ausgewechselt werden.

Part Number(s)

Ref. No.	Original Part Number	New Part Number	Part Name & Description
IC601	TDA3562A	TDA3566	Video/Chroma IC
R570	——	ERDS2TJ103T	Resistor - Carbon 0.25W 5% 10KΩ
R569	——	ERDS2TJ103T	Resistor - Carbon 0.25W 5% 10KΩ
R568	——	ERDS2TJ103T	Resistor - Carbon 0.25W 5% 10KΩ
R571	——	ERDS2TJ333T	Resistor - Carbon 0.25W 5% 33KΩ
R390	——	ERDS2TJ274T	Resistor - Carbon 0.25W 5% 270KΩ
R391	——	ERDS2TJ822T	Resistor - Carbon 0.25W 5% 8.2KΩ
R534	ERD25TJ332	ERDS2TJ102T	Resistor - Carbon 0.25W 5% 1KΩ
R630	ERDS2TJ822T	Jumper	——
C390	——	ECEA1HU010B	Electrolytic Capacitor 50V 1uF
C570	——	ECKR1H101KB5	Ceramic Capacitor 50V 100pF
D390	——	MA165TA5	Diode
Q390		2SC1685TA	Transistor
Q568	——	2SC1685TA	Transistor
Q569	——	2SC1685TA	Transistor

UPDATE OF SERVICE MANUAL INFORMATION.

Please revise the original parts list in the Service Manual to conform to the change(s) shown below. If new part numbers are shown, be sure to use them when ordering new parts.

ERGÄNZUNGEN ZUM SERVICE MANUAL.

Vergleichen Sie bitte die Ersatzteilliste im Service Manual mit den folgenden Änderungen. Sind neue Teilenummern vorhanden, verwenden Sie bitte bei Bestellungen nur die neue Ersatzteilnummer.

Part Number(s)

Ref. No.	Original Part Number	New Part Number	Part Name & Description
R374	ERD25TJ104	ERD25TJ103	Resistor - Carbon 0.25W 5% 10KΩ
R812	ERG2ANJ121	ERG2ANJ470	Resistor - Metal 2W 5% 47Ω
R817	ERDS1TJ683T	ERDS1FJ473P	Resistor - Carbon 0.5W 5% 47KΩ
R818	ERD25T684	ERD25TJ204	Resistor - Carbon 0.25W 5% 200KΩ
R820	ERDS1TJ473T	ERDS1TJ393T	Resistor - Carbon 0.5W 5% 39KΩ
R821	ERDS1TJ473T	ERDS1TJ393T	Resistor - Carbon 0.5W 5% 39KΩ
R822	ERDS1TJ683T	ERDS1FJ473P	Resistor - Carbon 0.5W 5% 47KΩ
C360	ECEA1CU471	ECEA1CU101	Electrolytic Capacitor 16V 100uF
C526	——	ECEA1CU470B	Electrolytic Capacitor 16V 47uF
L106	TSC937	EXCELDR35V	Choke
L302	TSC937	EXCELDR35V	Choke
L303	TSC925-4	TSC930-4	Choke
L555	TSC925-4	TSC930-4	Choke
L803	TSC925-4	TSC930-4	Choke
L806	TSC937	EXCELDR35V	Choke
L852	TSC925-4	TSC930-4	Choke
L854	TSC937	EXCELDR35V	Choke
L855	TSC937	EXCELDR35V	Choke
L1136	TSC925-4	TSC930-4	Choke
D252	——	MA4062MTA	Diode
D264	——	MA165TA5	Diode
D1144	——	MA858TA5	Diode
Q104	2SC2636-T	2SC1215	Transistor
Q303	2SC2636-T	2SC1215	Transistor
Q307	2SC2636-T	2SC1215	Transistor
T801	ETS42K610A	ETS42K610A1	Transformer
DL601	SDL145D	EFDEN645A61F	Delay Line
F801	195-3.15	2133.15	Fuse